

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	C.A. No. 06–788 (JJF)
	)	
v.	)	<b>REDACTED PUBLIC</b>
	)	<b>VERSION</b>
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**RESPONSE TO PROMOS’S LETTER ABOUT “FREESCALE’S PRODUCTS”**

**DM4**

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*Attorneys for Freescale Semiconductor, Inc.*

Dated: March 17, 2008  
**Redacted Filing Date: March 28, 2008**

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Jan. 30, 1996

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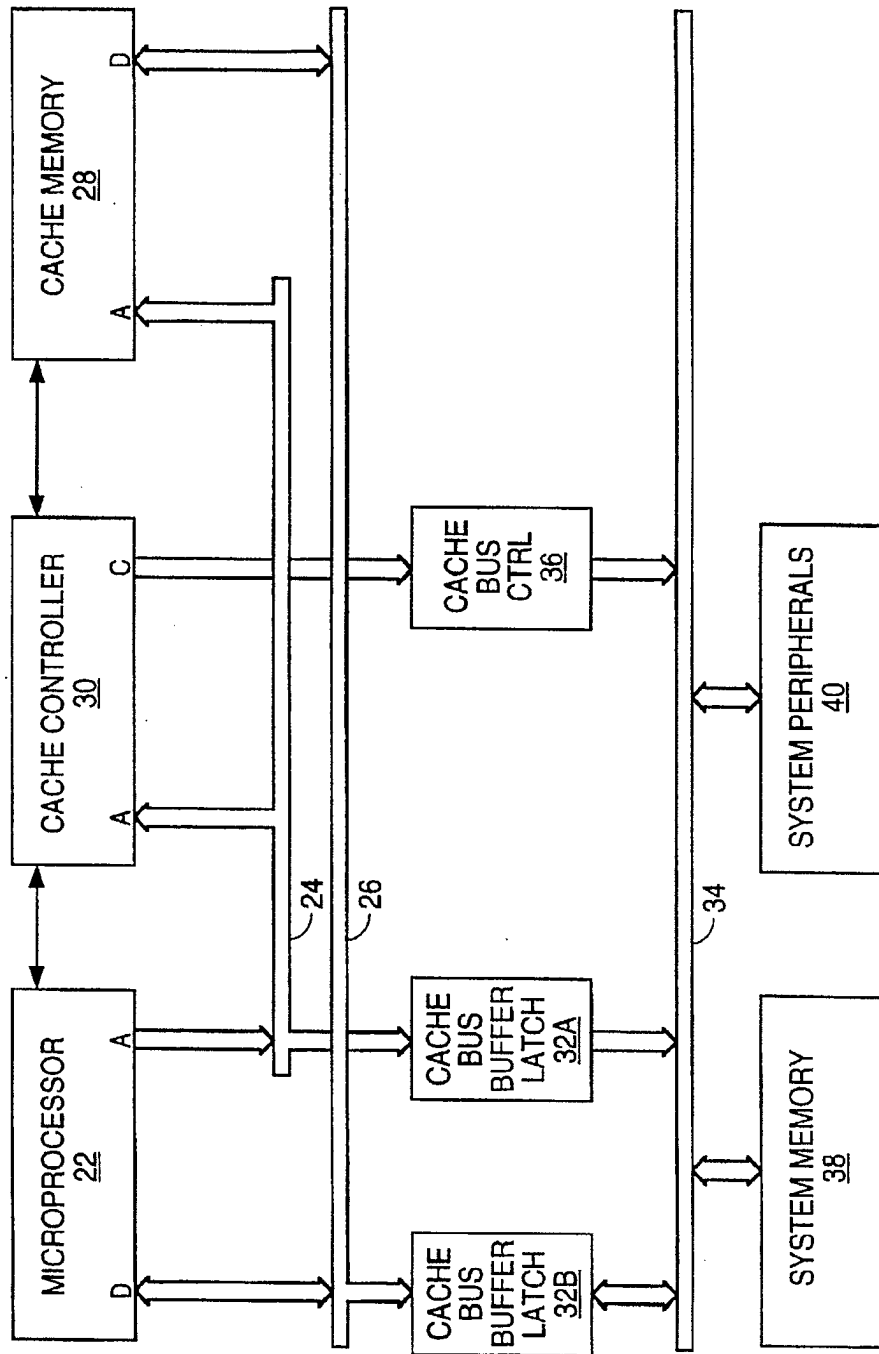


FIG. 4  
(PRIOR ART)

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	C.A. No. 06-788-JJF
	)	
v.	)	
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**PLAINTIFF PROMOS TECHNOLOGIES, INC.'S  
FIRST SET OF REQUESTS FOR PRODUCTION OF DOCUMENTS AND THINGS  
FROM DEFENDANT FREESCALE SEMICONDUCTOR, INC. (Nos. 1-117)**

Pursuant to Rules 34 and 26 of the Federal Rules of Civil Procedure, Plaintiff ProMOS Technologies, Inc. ("ProMOS") hereby requests that defendant Freescale Semiconductor, Inc. ("Freescale") produce for inspection and/or copying the following documents and things at the offices of Hogan & Hartson, LLP, Columbia Square, 555 13th Street, N.W., Washington, D.C., 20004, or such other mutually agreed upon location, within thirty (30) days of the date of service of these requests.

**DEFINITIONS**

1. The terms "Plaintiff" and "ProMOS" refer to ProMOS Technologies, Inc., and its officers, agents, employees, and representatives.
2. The terms "Defendant," "you," "your," and "Freescale" refer to Defendant Freescale Semiconductor, Inc., including but not limited to its divisions, subsidiaries, directors, agents, representatives, attorneys and employees, and any predecessor in interest.
3. The term "Complaint" means the Complaint and any amended Complaints filed by Plaintiff in this action.

4. The term "Answer" means the Answer and Affirmative Defenses, or any amendments thereto, filed by Defendant in this action. Whenever a request refers to or quotes from the Answer, all words in the request have the same meaning as in the Answer.

5. The term "Counterclaims" means the Counterclaims, or any amendments thereto, filed by Defendant in this action. Whenever a request refers to or quotes from the Counterclaims, all words in the request have the same meaning as in the Counterclaims.

6. The term "document" as used herein is employed in the broadest possible sense under Rule 34 and includes, but is not limited to, any printed, written, recorded, taped, electronic (including e-mail and deleted electronic media that is recoverable in any form), graphic, or other tangible matter from whatever source, however produced or reproduced, whether in draft or otherwise, whether sent or received or neither, including the original, all amendments and addenda and any non-identical copy (whether different from the original because of notes made on or attached to such copy or otherwise ) of any and all writings, correspondence, letters, telegraphs, telex communicants, cables, notes, notations, papers, newsletters, memoranda, interoffice communications, e-mails, releases, agreements, contracts, books, pamphlets, studies, minutes of meetings, recordings or other memorials of any type of personal or telephone conversations, meetings or conferences, reports, analyses, test results, examinations, evaluations, estimates, projections, forecasts, receipts, statements, accounts, books of account, diaries, calendars, desk pads, appointment books, stenographer's notebooks, transcripts, ledgers, registers, worksheets, journals, statistical records, cost sheets, summaries, lists, tabulations, digests, canceled or uncanceled checks or drafts, vouchers, charge slips, invoices, purchase orders, hotel charges, accountant's reports, financial statements, newspapers, periodicals or magazine materials, and any materials underlying, supporting, or used in the preparation of any

documents. The term “document(s)” also specifically includes any records stored on computer tape or computer disk or otherwise stored by or in a computer, including telephone voice mail or electronic mail, whether or not a hard copy (i.e., paper copy) of the document is or was at any time in existence. A document includes all documents appended thereto. The documents requested shall include all marked copies. A “marked copy” is any document containing any writing or any markings of any kind in the text, in the margins, or on the reverse side of the document.

7. The term “person(s)” includes any natural person, corporation, partnership, association, joint venture, sole proprietorship, firm, business enterprise, governmental or quasi-governmental body or agency, or legal entity of any type, and includes both the singular and plural.

8. The term “communications” means all oral, visual, or other sensory means of transmitting information, messages, or statements, including but not limited to correspondence, letters, memoranda, e-mails (with any attachment(s)), meeting minutes, transcripts of telephone conversations, and presentations.

9. The terms or phrases “relating to,” “relate(s),” or “related to” includes, but is not limited to, constituting, comprising, consisting of, containing, setting forth, describing, discussing, citing, regarding, pertaining to, mentioning, proposing, showing, disclosing, containing, analyzing, explaining, summarizing, supporting, evidencing, authorizing, concerning, embodying, reflecting, identifying, incorporating, considering, recommending, continuing, enumerating, dealing with, commenting on, referring to directly or indirectly, dealing with, responding to, or in any way logically or factually relevant to the matter described in the request.

10. The term “date” means the exact day, month and year, if ascertainable, or, if not, the best available approximation, including relationship to other events.

11. The terms “and” as well as “or” shall be construed either disjunctively or conjunctively as necessary to bring within the scope of these requests any documents that otherwise would be construed to be outside their scope.

12. The terms “ProMOS patents,” “ProMOS patents-in-suit,” and “patents-in-suit,” mean United States Letters Patent No. 5,488,709 (“the ‘709 patent”) entitled “Cache Including Decoupling Register Circuits;” United States Letters Patent No. 5,732,241 (“the ‘241 patent”) entitled “Random Access Cache Memory Controller and System;” and United States Letters Patent No. 6,670,267 (“the ‘267 patent”) entitled “Formation of Tungsten-Based Interconnect Using Thin Physically Vapor Deposited Titanium Nitride Layer.”

13. With respect to the ‘709 patent and the ‘241 patent, the term “inventor” shall mean Alfred K. Chan. With respect to the ‘267 patent, the term “inventor” shall mean Vincent Fortin. The term “inventors” shall mean Messrs. Chan and Fortin together.

14. The term “infringement” shall be defined broadly to include direct, contributory and induced infringement under the applicable laws.

15. The term “market,” as a verb, shall mean to sell, lease, license, exhibit or distribute; or to offer to sell, lease, license, exhibit or distribute.

16. The term “sale” means and refers to any exchange of goods, services or other property for value and includes transferring goods to another party on a consignment basis, regardless of whether title has passed.

17. As used herein, “prior art” includes any reference or subject matter set forth in or relevant under 35 U.S.C. § 102 and 35 U.S.C. § 103.

18. The term "Freescale Product(s)" includes: microcontrollers, microprocessors, processors, digital signal processors, controller cores, processor cores and all other components or goods you manufacture or market for sale or sell in any way that use, incorporate, work with or rely on cache memory; systems, components, products and goods that use, incorporate work with or rely on microcontrollers, microprocessors, processors, digital signal processors, controller cores, processor cores or other components or goods that use, incorporate, work with or rely on cache memory; and integrated circuits and semiconductor products that incorporate one or more conductors that includes a layer of tungsten overlying a layer of titanium nitride, such conductors including, but not limited to, those formed using Damascene and dual Damascene processes.

#### **INSTRUCTIONS**

1. In responding to these requests, you shall furnish all documents that are in your possession, custody, or control; or are within the possession, custody, or control of your officers, directors, employees, agents, representatives, present or former contractors, consultants, investigators, or attorneys; or otherwise available to you, regardless of whether documents are possessed directly by you, or any parent, subsidiary or affiliated corporation, or any of such entity's officers, directors, employees, agents, representatives, present or former contractors, consultants, investigators or attorneys.

2. Organize and label each document or set of documents, indicating by number the request to which the document(s) relates. In your written response, provide the document production (i.e. "Bates") number(s) for document(s) responsive to each request.

3. Electronic and computerized information must be produced in an intelligible format or together with a description of the system from which it was derived sufficient to permit rendering of the materials intelligible.

4. If any document responding to all or any part of this Request is not currently available, include a statement to that effect and furnish whatever documents are available. Include in your statement when such documents were most recently in your possession or subject to your control and what disposition was made of them, identifying the name, job title, and the last known address of each person currently in possession or control of such documents. If any of such documents were destroyed, identify the name, job title and the last known business address of each person who directed that the documents be destroyed, and state the reasons the documents were destroyed. If you do not have a document responsive to a request, but you know of person(s) or organization(s) who may have all or any portion of the document, then all such information, including names, addresses, and telephone numbers, shall be disclosed in your written response.

5. If any document or portion of any document covered by this Request for Production is withheld from production due to a claim of privilege, protection, or other grounds for non-disclosure, furnish a list of all such documents withheld that provides the following information: (a) the "Bates" number(s); (b) the identity of the person(s) who prepared or authorized the preparation of the document and, if applicable, the person(s), addresses, and organization to whom the document was sent or shown; (c) the date (or your best approximation thereof) on which the document was prepared; (d) a description of the type of document (e.g., letter, ledger, etc.); (e) the subject matter of the document; (f) a brief reason why the document is claimed to be privileged, protected, or subject to non-disclosure; and (g) the paragraph(s) of this Request to which the document responds.

6. This Request is continuing and requires, to the extent authorized by Rule 26(e) of the Federal Rules of Civil Procedure, production of any additional responsive documents that

may be located or acquired by you or your employees after the date of your original production.

7. Unless otherwise indicated in a particular request, the relevant time period for each Request shall be from January 1, 2000, to the present.

**SPECIFIC REQUESTS FOR PRODUCTION**

**REQUEST NO. 1:**

All documents identified, requested to be identified, relied upon, reviewed, or consulted in responding to Plaintiff's First Set of Interrogatories to Defendant.

**REQUEST NO. 2:**

All written policies, procedures and guidelines related to Freescale's computers, computer systems, electronic data and electronic media that hold, contain, save, or manage documents, including, but not limited to, (a) back up tape rotation schedules; (b) electronic data retention, preservation and destruction schedules; (c) employee use of company computers and data; (d) file naming conventions and standards; (e) diskette, CD, DVD, and other removable media labeling standards; and (e) e-mail storage (i.e., limitations on mailbox sizes and storage locations).

**REQUEST NO. 3:**

Documents sufficient to show your document retention and/or destruction policies and/or practices from 2000 to the present.

**REQUEST NO. 4:**

Organizational charts for all of your Information Technology-related or Information Services-related departments or divisions.

**REQUEST NO. 5:**

Documents sufficient to show your past and present organizational and operational structure, including all divisions or subsidiaries, entities owned or controlled by



Freescall, affiliates, predecessors or successors in interest, whether in the United States, or anywhere else in the world, and the identity of the officers and managers of each such entity.

**REQUEST NO. 6:**

All documents that identify present employees, past employees, consultants, and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each Freescall Product, including but not limited to, organizational charts and telephone or email directories.

**REQUEST NO. 7:**

All documents that identify present employees, past employees, consultants, and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each cache memory used with or in, incorporated in or relied on by a Freescall Product, including but not limited to, organizational charts and telephone or email directories.

**REQUEST NO. 8:**

All documents that identify present employees, past employees, consultants, and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of any register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with or in, incorporated in or relied on by a Freescall Product, including but not limited to, organizational charts and telephone or email directories.

**REQUEST NO. 9:**

All documents that identify present employees, past employees, consultants, and

contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each cache controller used with or in, incorporated in or relied on by a Freescale Product, including but not limited to, organizational charts and telephone or email directories.

**REQUEST NO. 10:**

All documents that identify present employees, past employees, consultants, and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product, including but not limited to, organizational charts and telephone or email directories.

**REQUEST NO. 11:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of any Freescale Product.

**REQUEST NO. 12:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each cache memory used with, incorporated in or relied on by any Freescale Product.

**REQUEST NO. 13:**

Documents sufficient to identify, describe, illustrate, or depict names and/or

functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of any register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with or in, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 14:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each cache controller used with or in, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 15:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 16:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale's behalf on the conception, design, development, implementation, testing and manufacturing of each version of each model of Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**REQUEST NO. 17:**

All documents relating to third parties contracted, consulted, hired and/or retained

that worked with Freescale or worked with another third party on Freescale's behalf on the conception, design, development, implementation, testing and manufacturing of each version of each cache memory used with, incorporated in or relied on by any Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**REQUEST NO. 18:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale's behalf on the conception, design, development, implementation, testing and manufacturing of each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**REQUEST NO. 19:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale's behalf on the conception, design, development, implementation, testing and manufacturing of each version of each cache controller used with, incorporated in or relied on by a Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**REQUEST NO. 20:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale's behalf on the

conception, design, development, implementation, testing and manufacturing of each version of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**REQUEST NO. 21:**

Your annual reports, prospectuses, proxy statements and Form 10-K and Form 10-Q reports for the years 2000 to the present.

**REQUEST NO. 22:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each model of Freescale Product.

**REQUEST NO. 23:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each cache memory used with, incorporated in or relied on by any Freescale Product.

**REQUEST NO. 24:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 25:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each cache controller used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 26:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 27:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture of any Freescale Product.

**REQUEST NO. 28:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture of each cache memory used with, incorporated in or relied on by any Freescale Product.

**REQUEST NO. 29:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 30:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture of each cache controller used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 31:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 32:**

All versions of operation manuals, repair manuals, or user manuals for any Freescale Product.

**REQUEST NO. 33:**

All manufacturing and/or production drawings for any Freescale Product,

including but not limited to hardware drawings, engineering drawings, assembly drawings, and blueprints.

**REQUEST NO. 34:**

All manufacturing and/or production drawings for each cache memory used with, incorporated in or relied on by any Freescale Product, including but not limited to hardware drawings, engineering drawings, assembly drawings, and blueprints.

**REQUEST NO. 35:**

All manufacturing and/or production drawings for each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product, including but not limited to hardware drawings, engineering drawings, assembly drawings, and blueprints.

**REQUEST NO. 36:**

All manufacturing and/or production drawings for each cache controller used with, incorporated in or relied on by a Freescale Product, including but not limited to hardware drawings, engineering drawings, assembly drawings, and blueprints.

**REQUEST NO. 37:**

All manufacturing and/or production drawings for each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 38:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each version of each model of Freescale Product, including but not limited to specifications, schematics, block diagrams, data



sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**REQUEST NO. 39:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each version of each cache memory used with, incorporated in or relied on by any Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**REQUEST NO. 40:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**REQUEST NO. 41:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each version of each cache controller used with, incorporated in or relied on by a Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**REQUEST NO. 42:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**REQUEST NO. 43:**

For each Freescale Product, documents sufficient to show the place and process of manufacture, models manufactured, units manufactured, and destination of units manufactured.

**REQUEST NO. 44:**

To the extent not produced in response to any other request, all reference designs and schematics relating to each version of each model of Freescale Product.

**REQUEST NO. 45:**

All pictures or photographs of Freescale Products, including but not limited to any die or portion of any die.

**REQUEST NO. 46:**

Circuit diagrams for each version of each model of Freescale Product.

**REQUEST NO. 47:**

Circuit diagrams for each version of each cache memory used with, incorporated in or relied on by any Freescale Product.

**REQUEST NO. 48:**

Circuit diagrams for each version of each register(s) used in writing, reading,

buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 49:**

Circuit diagrams for each version of each cache controller used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 50:**

Process flows and process recipes for each version of each model of Freescale Product.

**REQUEST NO. 51:**

Process flows and process recipes for each version of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 52:**

All documents relating to source code, object code, pseudo code, flow charts or design specifications of the circuit diagrams, Verilog code and/or VHDL code, and reticle layout code for each version of each model of Freescale Product.

**REQUEST NO. 53:**

All documents relating to source code, object code, pseudo code, flow charts or design specifications of the circuit diagrams, Verilog code and/or VHDL code, and reticle layout code for each version of each cache memory used with, incorporated in or relied on by any Freescale Product.

**REQUEST NO. 54:**

All documents relating to source code, object code, pseudo code, flow charts or

design specifications of the circuit diagrams, Verilog code and/or VHDL code, and reticle layout code for each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 55:**

All documents relating to source code, object code, pseudo code, flow charts or design specifications of the circuit diagrams, Verilog code and/or VHDL code, and reticle layout code for each version of each cache controller used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 56:**

Documents sufficient to identify the date of all revisions to circuit diagrams, source code, Verilog code and/or VHDL code, and reticle layout code for each version of each model of Freescale Product.

**REQUEST NO. 57:**

All documents relating to the operation of each version of each model of Freescale Product.

**REQUEST NO. 58:**

All documents relating to the operation of each version of each cache memory used with, incorporated in or relied on by any Freescale Product.

**REQUEST NO. 59:**

All documents relating to the operation of each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 60:**

All documents relating to the operation of each version of each cache controller used with, incorporated in or relied on by a Freescale Product.

**REQUEST NO. 61:**

All engineering change orders or notices for each version of each model of Freescale Products.

**REQUEST NO. 62:**

Documents sufficient to show the device and system architecture of each version of each model of Freescale Product.

**REQUEST NO. 63:**

All documents relating to comparative testing of each version of each model of Freescale Products.

**REQUEST NO. 64:**

All prototypes and models of Freescale Products, from initial prototype to commercial and/or production models made from 2000 to the present.

**REQUEST NO. 65:**

Complete copies of all licenses or agreements to which you are a party, including but not limited to cross-licenses, inter-company agreements, settlements, covenants not to enforce or releases that relate in any way to integrated circuit manufacturing, microprocessor, microcontroller, DRAM, SDRAM or memory technologies.

**REQUEST NO. 66:**

All documents that refer to, discuss, evidence, mention or constitute any contracts or license agreements, including drafts, in which Freescale has licensed, or licenses, or

considering licensing products, technology or patents from or to third parties relating to microprocessor, microcontroller, processor or memory technologies.

**REQUEST NO. 67:**

All documents relating to your policies on licensing or cross-licensing patents, know-how or technology.

**REQUEST NO. 68:**

Documents sufficient to identify any third parties that manufacture any Freescale Products.

**REQUEST NO. 69:**

All articles, speeches, presentations or interviews, both internal and external, that have been written and/or given by your employees, officers, directors or other of your representatives relating to Freescale Products.

**REQUEST NO. 70:**

All press releases from 2000 to the present relating to Freescale Products.

**REQUEST NO. 71:**

All documents relating to ProMOS or the patents-in-suit, including but not limited to documents that relate to your first awareness of any of the patents-in-suit and your earliest notice of potential infringement of any of the patents-in-suit.

**REQUEST NO. 72:**

All documents relating to communications exchanged between you and any third party relating to the patents-in-suit, this lawsuit and/or ProMOS.

**REQUEST NO. 73:**

Each Freescale meeting agenda, corporate minutes or minutes of meetings relating to the patents-in-suit, this lawsuit and/or ProMOS products.

**REQUEST NO. 74:**

All documents relating to any effort by Freescale or anyone else on its behalf to design, redesign, commercialize or modify any Freescale Product in view of the patents-in-suit.

**REQUEST NO. 75:**

All documents relating to any attempt by Freescale or anyone on its behalf to design around and/or avoid infringement of the patents-in-suit by any Freescale Product.

**REQUEST NO. 76:**

All documents related or referring to any ProMOS patent.

**REQUEST NO. 77:**

All documents relating to your evaluation, analysis, or consideration of the patents in-suit, including but not limited to any reverse engineering or testing performed on any Freescale Product.

**REQUEST NO. 78:**

All documents relating to your consideration of whether or not to obtain a license from ProMOS for the patents-in-suit.

**REQUEST NO. 79:**

All documents found or identified during any enforceability, prior art or invalidity searches, or any other studies relating to the patents-in-suit, including any copies of patents, publications, or other prior art identified during such searches or studies.

**REQUEST NO. 80:**

All documents that relate, support, or contradict Freescale's assertion that the patents-in-suit are invalid for any reason, including but not limited to anticipation or obviousness.

**REQUEST NO. 81:**

All documents that Freescale contends constitute prior art to the patents-in-suit.

**REQUEST NO. 82:**

All documents that relate, support, or contradict Freescale's assertion that the patents-in-suit are unenforceable.

**REQUEST NO. 83:**

All opinion letters, memoranda, or other documents relating to your contentions on validity/invalidity, infringement/non-infringement, or enforceability/unenforceability of the patents-in-suit.

**REQUEST NO. 84:**

All documents supporting, refuting or relating in any way to the affirmative defenses or counterclaims set forth in your Answer to the Complaint.

**REQUEST NO. 85:**

All documents relating to any contention by you that your products do not infringe the patents-in-suit, including but not limited to documents relating to the interpretation, scope, and meaning of the claims in any of the patents-in-suit.

**REQUEST NO. 86:**

All opinions of counsel obtained with respect to infringement, validity, or enforceability of the patents-in-suit upon which you intend to rely at trial to defend against claims of willful infringement, inducement to infringe, or contributory infringement.



**REQUEST NO. 87:**

All communications or opinions of officers, directors and/or employees of yours with respect to infringement, validity, or enforceability of the patents-in-suit or regarding any licensing negotiations with ProMOS.

**REQUEST NO. 88:**

Documents sufficient to show by month or calendar quarter for each year since 2000 the number of each version of each model of Freescale Product manufactured, used, sold or distributed in the United States.

**REQUEST NO. 89:**

Documents sufficient to show by month or calendar quarter for each year since 2000 the volume of sales in dollars from the sale or distribution of each version of each model of Freescale Product.

**REQUEST NO. 90:**

All projections, forecasts, business plans, strategic plans, fiscal plans, marketing plans or sales plans relating to the sale of Freescale Products from 2000 to the present, including documents containing projections through calendar year 2012.

**REQUEST NO. 91:**

All documents relating to the means by which sales or sales information relating to each version of each model of Freescale Product is maintained and tracked by or on behalf of Freescale.

**REQUEST NO. 92:**

All versions of all part number decoders or legends for each version of each model of Freescale Product.

**REQUEST NO. 93:**

Current and historical price lists for each version of each model of Freescale Product.

**REQUEST NO. 94:**

All documents relating to returns of, or complaints, dissatisfaction, negative comments, unfavorable opinions or suggestions for improvement regarding each version of each model of Freescale Products.

**REQUEST NO. 95:**

All documents relating to favorable, positive, commendatory, or complimentary feedback, comments or opinions regarding each version of each model of Freescale Products.

**REQUEST NO. 96:**

All documents relating to favorable, positive, commendatory, or complimentary feedback, comments or opinions regarding any ProMOS product.

**REQUEST NO. 97:**

All documents relating to sales, distribution or importation agreements entered into between Freescale and any third party for each version of each model of Freescale Product.

**REQUEST NO. 98:**

Documents sufficient to show each of your distributors, resellers and customers of each version of each model of Freescale Product.

**REQUEST NO. 99:**

All documents relating to purchase orders and/or specifications received from customers or potential customers for each version of each model of Freescale Product, including all drawings and information received therewith.

**REQUEST NO. 100:**

All documents relating to market shares for Freescale and its competitors for each of the Freescale Products.

**REQUEST NO. 101:**

Summary documents categorized by year and by product type and name regarding the following: (1) Freescale's total unit and dollar volumes for Freescale Products manufactured, sold, or offered for sale by you from 2000 to the present, including projections through calendar year 2012; and (2) revenues, costs (fixed and variable), gross profit, and net profit for all such products manufactured, sold or offered for sale by you from 2000 to the present, including projections through calendar year 2012.

**REQUEST NO. 102:**

Summary documents categorized by year and by product type and name regarding gross expenses, including but not limited to direct labor costs, direct manufacturing costs, selling costs, variable overhead costs, incurred in the manufacture, distribution, or sale of Freescale Products from 2000 to the present, including projections through calendar year 2012.

**REQUEST NO. 103:**

Documents sufficient to show the date of the first sale of each Freescale Product.

**REQUEST NO. 104:**

Summary documents identifying the distributors and retailers to whom you have sold each Freescale Product from 2000 through the present, including the name, address, product(s) sold by model number, number of units sold, date of sale, date of shipment, and sales price.

A0027

**REQUEST NO. 105:**

Financial statements, including profit and loss statements, income statements, balance sheets, statements of cash flow, statements of retained earnings, and notes thereto for Freescale and any of its affiliates, divisions, subsidiaries, or parent companies.

**REQUEST NO. 106:**

All documents relating to market, industry or consumer studies, surveys, or analyses of any Freescale Product and/or any competitor's product.

**REQUEST NO. 107:**

All drafts, proposals, and final copies of advertising, sales, or promotional literature, including but not limited to television and print media advertising, brochures and trade show promotional material, catalogues, price lists, sell sheets, product descriptions, sales literature, drawings, videotapes, audio tapes, electronic media, or photographs for advertising, point-of-sale commercials, or other promotional material for Freescale Products.

**REQUEST NO. 108:**

All memoranda, correspondence, bulletins, newsletters, or other documents that currently or since 2000 have been distributed to, made available to, received from, or drafted by your present or former employees engaged in marketing or sales functions relating to Freescale Products.

**REQUEST NO. 109:**

All documents prepared by, provided by, sent to, or received from your advertising agencies or public relations firms relating to any Freescale Product.

**REQUEST NO. 110:**

All documents that you may introduce as exhibits at the trial of this matter.

**REQUEST NO. 111:**

All documents identifying by name, company, address and title, all third parties hired by you or your counsel to investigate the above-captioned litigation, ProMOS, the patents-in-suit, or any ProMOS products.

**REQUEST NO. 112:**

Ten samples of each Freescale Product.

**REQUEST NO. 113:**

Any and all witness statements taken in connection with this litigation.

**REQUEST NO. 114:**

All documents provided to any person(s) that you expect to call as an expert witness at trial.

**REQUEST NO. 115:**

All documents relied upon by any person(s) that you expect to a call as an expert witness at trial in forming the opinion(s) as to which the person(s) will or may testify.

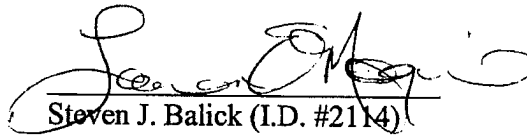
**REQUEST NO. 116:**

All documents relating to each person you employ, have employed, or have retained as an expert, including but not limited to curriculum vitae, resumes, retention agreements, letters, statements, and communications.

**REQUEST NO. 117:**

All documents on which you intend to rely for and/or that might be relevant to a reasonable royalty analysis or calculation using the so-called *Georgia Pacific* factors.

ASHBY & GEDDES



Steven J. Balick (I.D. #2114)

John G. Day (I.D. #2403)

Lauren E. Maguire (I.D. #4261)

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Dated: April 12, 2007  
179643.1

A0030

**CERTIFICATE OF SERVICE**

I hereby certify that on the 12<sup>th</sup> day of April, 2007, the attached **PLAINTIFF PROMOS TECHNOLOGIES, INC.'S FIRST SET OF REQUESTS FOR PRODUCTION OF DOCUMENTS AND THINGS FROM DEFENDANT FREESCALE SEMICONDUCTOR, INC. (Nos. 1-117)** was served upon the below-named counsel of record at the address and in the manner indicated:

Mary B. Graham, Esquire  
Morris, Nichols, Arsht & Tunnell LLP  
1201 N. Market Street  
P.O. Box 1347  
Wilmington, DE 19899-1347

HAND DELIVERY

Jason W. Cook, Esquire  
Jones Day  
2727 North Harwood Street  
Dallas, TX 75201-1515

VIA FEDERAL EXPRESS

Kevin P. Ferguson, Esquire  
Jones Day  
77 West Wacker  
Chicago, IL 60601-1692

VIA FEDERAL EXPRESS

F. Drexel Feeling, Esquire  
Jones Day  
North Point  
901 Lakeside Avenue  
Cleveland, OH 44114-1190

VIA FEDERAL EXPRESS

177267.1

  
Lauren E. Maguire

A0031

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	C.A. No. 06-788-JJF
	)	
v.	)	
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**NOTICE OF SERVICE**

The undersigned hereby certifies that on the 12<sup>th</sup> day of April, 2007, **PLAINTIFF**  
**PROMOS TECHNOLOGIES, INC.'S FIRST SET OF REQUESTS FOR PRODUCTION**  
**OF DOCUMENTS AND THINGS FROM DEFENDANT FREESCALE**  
**SEMICONDUCTOR, INC. (Nos. 1-117)** was served upon the following counsel of record at  
the address and in the manner indicated:

Mary B. Graham, Esquire  
Morris, Nichols, Arsht & Tunnell LLP  
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VIA FEDERAL EXPRESS



ASHBY & GEDDES

*/s/ Lauren E. Maguire*

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1999 Avenue of the Stars  
Suite 1400  
Los Angeles, CA 90067  
Telephone: (310) 785-4600

Dated: April 12, 2007

177270.1

**CERTIFICATE OF SERVICE**

I hereby certify that on the 12<sup>th</sup> day of April, 2007, the attached **NOTICE OF SERVICE** was served upon the below-named counsel of record at the address and in the manner indicated:

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Morris, Nichols, Arsht & Tunnell LLP  
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P.O. Box 1347  
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North Point  
901 Lakeside Avenue  
Cleveland, OH 44114-1190

VIA FEDERAL EXPRESS

*/s/ Lauren E. Maguire*

\_\_\_\_\_  
Lauren E. Maguire

## Discovery Documents

1:06-cv-00788-JJF Promos Technologies Inc. v. Freescale Semiconductor Inc.  
PATENT

**U.S. District Court**

**District of Delaware**

### Notice of Electronic Filing

The following transaction was entered by Maguire, Lauren on 4/12/2007 at 12:33 PM EDT and filed on 4/12/2007

**Case Name:** Promos Technologies Inc. v. Freescale Semiconductor Inc.

**Case Number:** 1:06-cv-788

**Filer:** Promos Technologies Inc.

**Document Number:** 13

#### Docket Text:

NOTICE OF SERVICE of First Set of Requests for Production of Documents and Things From Defendant Freescale Semiconductor, Inc. (Nos. 1-117) by Promos Technologies Inc..(Maguire, Lauren)

#### 1:06-cv-788 Notice has been electronically mailed to:

Steven J. Balick sbalick@ashby-geddes.com, dfioravanti@ashby-geddes.com, jday@ashby-geddes.com, lmaguire@ashby-geddes.com, mkipp@ashby-geddes.com, nlopez@ashby-geddes.com, rgamory@ashby-geddes.com, tlydon@ashby-geddes.com

John G. Day jday@ashby-geddes.com, dfioravanti@ashby-geddes.com, dharker@ashby-geddes.com, lmaguire@ashby-geddes.com, mkipp@ashby-geddes.com, nlopez@ashby-geddes.com, rgamory@ashby-geddes.com, sbalick@ashby-geddes.com, tlydon@ashby-geddes.com

Mary B. Graham dmyers@mnat.com, mbgefiling@mnat.com

#### 1:06-cv-788 Notice has been delivered by other means to:

The following document(s) are associated with this transaction:

**Document description:**Main Document

**Original filename:**n/a

**Electronic document Stamp:**

[STAMP dcecfStamp\_ID=1079733196 [Date=4/12/2007] [FileNumber=371463-0]  
[acbbc4b7c0f3a0515c74f3c0fb52d6c79b9d44fb2c95ab00ddc61e2aaa9c018ef8dd  
8650c9e18262136e92d84362e5a068e50e5dd2348c96a15d098a662514d2]]

**A0035**

REDACTED

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	
_____	)	

**DEFENDANT FREESCALE'S RESPONSE TO PLAINTIFF  
PROMOS TECHNOLOGIES, INC.'S FIRST SET OF REQUESTS  
FOR PRODUCTION OF DOCUMENTS AND THINGS FROM  
DEFENDANT FREESCALE SEMICONDUCTOR, INC. (NOS. 1-117)**

Pursuant to Rules 26 and 34 of the Federal Rules of Civil Procedure, Defendant Freescale Semiconductor, Inc. ("Freescale") responds as follows to Plaintiff ProMOS Technologies, Inc.'s First Set Of Requests For Production Of Documents And Things From Defendant Freescale Semiconductor, Inc. (Nos. 1-117), served by ProMOS Technologies, Inc. ("ProMOS") on April 12, 2007.

**GENERAL OBJECTIONS**

1. Freescale objects to these document requests as premature, overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products, the identity of the asserted claims, and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with relevant information. Where appropriate, Freescale will supplement its responses within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to

respond meaningfully thereto. In this regard, Freescale acknowledges that it just received ProMOS's interrogatory responses that purport to contain some of the missing information identified above, and Freescale is in the process of evaluating those responses.

2. Freescale's Specific Objections to each document request are in addition to the General Objections set forth in this section. These General Objections form a part of the response to each and every document request and are set forth here to avoid the duplication and repetition of restating them for each response. The absence of a reference to a General Objection in each response to a particular document request does not constitute a waiver of any General Objection with respect to that document request. All responses are made subject to and without waiver of Freescale's General and Specific Objections. By making a Specific Objection to a particular document request, Freescale does not imply that that Specific Objection is not applicable in response to any other document request, nor that the General Objections are not applicable to that document request. A statement in these responses that responsive documents will be produced should not be taken to mean that any such documents actually exist, but only that, if they exist and can be located through a reasonable search of Freescale's records, they will be produced. Any documents to be produced will be produced for review at a mutually agreeable and convenient time and place.

3. A partial answer to any document request which has been objected to in whole or in part is not a waiver of the objection. By asserting various objections, Freescale does not waive other objections that may become applicable.

4. Freescale objects to these document requests to the extent they request information protected from disclosure by the attorney-client privilege, the work product doctrine, or any other applicable privilege, law, rule, or immunity. Should any response by Freescale

include such privileged or protected information, such disclosure is inadvertent and shall not constitute a waiver of any applicable privilege or immunity, of any other ground for objecting to discovery with respect to such response, or of Freescale's right to object during this litigation or otherwise to the use of such response.

5. Freescale objects to these document requests to the extent they are inconsistent with, enlarge upon, or exceed the scope of discovery permitted by the Federal Rules of Civil Procedure, the Local Rules of the District of Delaware, or the parties' proposed Rule 16 Scheduling Order submitted to the Court on May 4, 2007. Freescale also objects to these document requests to the extent they are contrary to or inconsistent with any Court order in this litigation.

6. Freescale objects to these document requests to the extent they seek information not relevant to any issue in this case and to the extent they are not reasonably calculated to lead to the discovery of admissible evidence.

7. Freescale objects to these document requests as overly broad and unduly burdensome to the extent they purport to require production of information, documents, or things not in the possession, custody, or control of Freescale.

8. Freescale objects to these document requests to the extent they seek information obtainable from some other source (including, but not limited to, a public source) that is more convenient, less burdensome, or less expensive.

9. Freescale objects to these document requests to the extent they seek information and documents obtained by Freescale from a third party pursuant to a nondisclosure and/or confidentiality agreement the terms of which prohibit Freescale from disclosing,

producing, revealing, and/or divulging such information and documents to any other party, including ProMOS.

10. Freescale objects to these document requests to the extent they prematurely seek information or opinions to be provided by expert witnesses.

11. Freescale's responses to these document requests are made without in any way waiving (a) the right to object to the use of any information, documents, or things provided herein as evidence in any subsequent proceeding in this action or any other action on the grounds of competency, relevancy, materiality, privilege, or other grounds of admissibility; and (b) the right to object on any ground to other discovery requests involving or relating to the subject matter of these document requests. Furthermore, Freescale is providing responses herein in an effort to expedite discovery in this action and not as an indication or admission by Freescale of the relevancy, materiality, or admissibility thereof, and Freescale hereby reserves all objections to Plaintiff's use of such responses.

12. Freescale objects to the definition of "Freescale" as set forth in paragraph 2 of the definitions set forth in ProMOS's First Set of Document Requests to the extent it purports to impose discovery obligations on persons or entities other than the parties to this lawsuit. Subject to and without waiving its objection to this definition, Freescale will respond to a request for production using any such defined term by diligently conducting its investigation and responding to discovery in light of those persons affiliated with Freescale during the relevant time period who are likely to have information relevant to the subject matter of this action, but without assuming any obligation to determine all of the information required under ProMOS's definition.



13. Freescale objects to these document requests to the extent they purport to require Freescale to produce and/or identify “all” documents relating to a specific or general subject to the extent that these document requests are overly broad, unduly burdensome, purport to require Freescale to interview all of its employees and search all of its files worldwide, and seek information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence. Freescale will make a reasonable inquiry of those employees whom, and a reasonable search of those files which, it reasonably believes may provide relevant, responsive, and non-duplicative information and documents.

14. Freescale’s responses hereto are based on Freescale’s present knowledge, information, and belief. As discovery and Freescale’s investigation are ongoing, Freescale reserves the right to supplement these responses.

15. Freescale repeats and incorporates herein the General Objections included in Defendant Freescale’s Response To Plaintiff ProMOS Technologies, Inc.’s First Set Of Interrogatories To Defendant Freescale Semiconductor, Inc. (Nos. 1-14).

**REQUEST NO. 1:**

All documents identified, requested to be identified, relied upon, reviewed, or consulted in responding to Plaintiff’s First Set of Interrogatories to Defendant.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 2:**

All written policies, procedures and guidelines related to Freescale's computers, computer systems, electronic data and electronic media that hold, contain, save, or manage documents, including, but not limited to, (a) back up tape rotation schedules; (b) electronic data retention, preservation and destruction schedules; (c) employee use of company computers and data; (d) file naming conventions and standards; (e) diskette, CD, DVD, and other removable media labeling standards; and (e) e-mail storage (i.e., limitations on mailbox sizes and storage locations.)

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as vague, overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it requests documents regarding "all written policies, procedures and guidelines" and "employee use of computers and data."

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 3:**

Documents sufficient to show your document retention and/or destruction policies and/or practices from 2000 to the present.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request to the extent such documents relate to the documents at issue in this lawsuit.

**REQUEST NO. 4:**

Organizational charts for all of your Information Technology-related or Information Services-related departments or divisions.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as vague, overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it requires this information for “all of your Information Technology-related or Information Services-related departments or divisions” and is not directed to identifying relevant Freescale personnel and business operations.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 5:**

Documents sufficient to show your past and present organizational and operational structure, including all divisions or subsidiaries, entities owned or controlled by Freescale, affiliates, predecessors or successors in interest, whether in the United States, or anywhere else in the world, and the identity of the officers and managers of each such entity.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as vague, overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it requires this information for all of Freescale “anywhere...in the world” and is not directed to identifying relevant Freescale personnel and business operations.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 6:**

All documents that identify present employees, past employees, consultants and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each Freescale Product, including but not limited to, organizational charts and telephone or email directories.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine.

**REQUEST NO. 7:**

All documents that identify present employees, past employees, consultants, and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each cache memory used with or in, incorporated in or relied on by a Freescale Product, including but not limited to, organizational charts and telephone or email directories.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it is duplicative of Request No. 6.

**REQUEST NO. 8:**

All documents that identify present employees, past employees, consultants, and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of any register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with or in, incorporated in or relied on by a Freescale Product, including but not limited to, organizational charts and telephone or email directories.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation

of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it is duplicative of Request No. 6.

**REQUEST NO. 9:**

All documents that identify present employees, past employees, consultants, and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each cache controller used with or in, incorporated in or relied on by a Freescale Product, including but not limited to, organizational charts and telephone or email directories.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of

infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it is duplicative of Request No. 6.

**REQUEST NO. 10:**

All documents that identify present employees, past employees, consultants, and contract employees, whether full or part time, whose responsibilities or assignment include work relating to the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product, including but not limited to, organizational charts and telephone or email directories.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by

the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it is duplicative of Request No. 6.

**REQUEST NO. 11:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 12:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each cache memory used with, incorporated in or relied on by any Freescale Product.



**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it is duplicative of Request No. 11.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 13:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of any register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with or in, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information

regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it is duplicative of Request No. 11.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 14:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each cache controller used with or in, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to

this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it is duplicative of Request No. 11.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 15:**

Documents sufficient to identify, describe, illustrate, or depict names and/or functions of subsidiaries, departments, or divisions that were involved in any manner in the conception, design, development, manufacture, analysis, testing, marketing, sales or repair of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it is duplicative of Request No. 11.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 16:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale's behalf on the conception, design, development, implementation, testing and manufacturing of each version of each model of Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it requests documents not in Freescale's possession, custody, or control.

**REQUEST NO. 17:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale's behalf on the conception, design, development, implementation, testing and manufacturing of each version of each cache memory used with, incorporated in or relied on by any Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it requests documents not in Freescale's possession, custody, or control. Freescale objects to this request to the extent it is duplicative of Request No. 16.

**REQUEST NO. 18:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale's behalf on the conception, design, development, implementation, testing and manufacturing of each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information

concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it requests documents not in Freescale's possession, custody, or control. Freescale objects to this request to the extent it is duplicative of Request No. 16.

**REQUEST NO. 19:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale's behalf on the conception, design, development, implementation, testing and manufacturing of each version of each cache controller used with, incorporated in or relied on by a Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly

burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Products” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it requests documents not in Freescale’s possession, custody, or control. Freescale objects to this request to the extent it is duplicative of Request No. 16.

**REQUEST NO. 20:**

All documents relating to third parties contracted, consulted, hired and/or retained that worked with Freescale or worked with another third party on Freescale’s behalf on the conception, design, development, implementation, testing and manufacturing of each version of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product, including but not limited to, contracts, contract proposals, Requests for Proposals (RFPs), solicitations, queries, investigations, and capability studies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of

infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it requests information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request to the extent it requests documents not in Freescale’s possession, custody, or control. Freescale objects to this request to the extent it is duplicative of Request No. 16.

**REQUEST NO. 21:**

Your annual reports, prospectuses, proxy statements from Form 10-K and Form 10-Q reports for the years 2000 to present.

**RESPONSE:**

In addition to its General objections, Freescale objects to this document request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence. Freescale objects to this request as unduly burdensome to the extent that the requested information is publicly available and could be obtained by ProMOS just as easily as Freescale.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 22:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information



concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 23:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each cache memory used with, incorporated in or relied on by any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter

of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 22.

**REQUEST NO. 24:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each register(s) used in writing, reading, buffering and accessing data from or to each cache memory used with, incorporated in or relied on by Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 22.

**REQUEST NO. 25:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each cache controller used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 22.

**REQUEST NO. 26:**

All documents relating to design reviews and design review meetings, including but not limited to, all notes, minutes, reports, action item lists and management summaries, relating to each version of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor

reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 22.

**REQUEST NO. 27:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture of any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 28:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture of each cache memory used with, incorporated in or relied on by any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 27.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information

from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 29:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacturing of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 27.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 30:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture of each cache controller used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 27.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 31:**

All documents relating to drawings, schematics, blueprints, manufacturing specifications, engineering specifications, design specifications, product test specifications, part specifications, assembly specifications and other documents relating to the design, development, or manufacture

of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 27.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 32:**

All versions of operation manuals, repair manuals, or user manuals for any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information



concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 33:**

All manufacturing and/or production drawings for any Freescale Product, including but not limited to hardware drawings, engineering drawings, assembly drawings, and blueprints.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter

of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 34:**

All manufacturing and/or production drawings for each cache memory used with, incorporated in or relied on by any Freescale Product, including but not limited to hardware drawings, engineering drawings, assembly drawings, and blueprints.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 33.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information

from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 35:**

All manufacturing and/or production drawings for each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product, including but not limited to hardware drawings, engineering drawings, assembly drawings, and blueprints.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 33.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 36:**

All manufacturing and/or production drawings for each cache controller used with, incorporated in or relied on by a Freescale Product, including but not limited to hardware drawings, engineering drawings, assembly drawings, and blueprints.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 33.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 37:**

All manufacturing and/or production drawings for each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 33.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 38:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each version of each model of Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information

concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request as duplicative of previous document requests.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 39:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each version of each cache memory used with, incorporated in, relied on by any Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information

regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 38.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 40:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, data bases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor

reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 38.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 41:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each version of each cache controller used with, incorporated in or relied on by a Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of



infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 38.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 42:**

All documents relating to the conception, engineering, design, research, development, manufacture, testing, use, repair and/or operation of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product, including but not limited to specifications, schematics, block diagrams, data sheets, layouts, databases, depictions, photographs, simulations, test results, manuals, journals, notes, notebooks, communications, and correspondence.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter

of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 38.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 43:**

For each Freescale Product, documents sufficient to show the place and process of manufacture, models manufactured, units manufactured, and destination of units manufactured.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 44:**

To the extent not produced in response to any other request, all reference designs and schematics relating to each version of each model of Freescale Product.

**RESPONSE:**

Freescall incorporates its objections to the extent this request repeats and overlaps with any information or documents responsive "to any other request." In addition to its General Objections, Freescall objects to this document request as premature because ProMOS has not provided Freescall with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescall products and an explanation of ProMOS's infringement contentions) to permit Freescall to respond with information regarding relevant Freescall products. Freescall objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescall Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescall will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescall to respond with information regarding relevant Freescall products.

**REQUEST NO. 45:**

All pictures or photographs of Freescall Products, including but not limited to any die or portion of any die.

**RESPONSE:**

In addition to its General Objections, Freescall objects to this document request as premature because ProMOS has not provided Freescall with sufficient information

concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this response the extent it is duplicative of Request Nos. 38-42.

**REQUEST NO. 46:**

Circuit diagrams for each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 47:**

Circuit diagrams for each version of each cache memory used with, incorporated in or relied on by any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to this request to the extent it is duplicative of Request No. 46.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 48:**

Circuit diagrams for each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information

regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to this request to the extent it is duplicative of Request No. 46.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 49:**

Circuit diagrams for each version of each cache controller used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to this request to the extent it is duplicative of Request No. 46.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 50:**

Process flows and process recipes for each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 51:**

Process flows and process recipes for each version of each process for forming conductors that include a layer of tungsten overlying a layer of titanium nitride used with or in, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor

reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to this request to the extent it is duplicative of Request No. 50.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 52:**

All documents relating to source code, object code, pseudo code, flow charts or design specifications of the circuit diagrams, Verilog code and/or VHDL code, and reticle layout code for each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.



**REQUEST NO. 53:**

All documents relating to source code, object code, pseudo code, flow charts or design specifications of the circuit diagrams, Verilog code and/or VHDL code, and reticle layout code for each version of each cache memory used with, incorporated in or relied on by any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 52.

**REQUEST NO. 54:**

All documents relating to source code, object code, pseudo code, flow charts or design specifications of the circuit diagrams, Verilog code and/or VHDL code, and reticle layout code for each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation

of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 52.

**REQUEST NO. 55:**

All documents relating to source code, object code pseudo code, flow charts or design specifications of the circuit diagrams, Verilog code and/or VHDL code, and reticle layout code for each version of each cache controller used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (e.g., the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter

of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 52.

**REQUEST NO. 56:**

Documents sufficient to identify the date of all revisions to circuit diagrams, source code, Verilog code and/or VHDL code, and reticle layout code for each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

**REQUEST NO. 57:**

All documents relating to the operation of each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor

reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 58:**

All documents relating to the operation of each version of each cache memory used with, incorporated in or relied on by any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter

of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 57.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 59:**

All documents relating to the operation of each version of each register(s) used in writing, reading, buffering or accessing data from or to each cache memory used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 57.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information

from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 60:**

All documents relating to the operation of each version of each cache controller used with, incorporated in or relied on by a Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it is duplicative of Request No. 57.

Without waiving any and subject to all of the foregoing objections, Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with information regarding relevant Freescale products.

**REQUEST NO. 61:**

All engineering change orders or notices for each version of each model of Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 62:**

Documents sufficient to show the device and system architecture of each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term

“Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 63:**

All documents relating to comparative testing of each version of each model of Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Products” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 64:**

All prototypes and models of Freescale Products, from initial prototype to commercial and/or production models made from 2000 to the present.



**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 65:**

Complete copies of all licenses or agreements to which you are a party, including but not limited to cross-licenses, inter-company agreements, settlements, covenants not to enforce or releases that relate in any way to integrated circuit manufacturing, microprocessor, microcontroller, DRAM, SDRAM or memory technologies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this document request to the extent it requests "[a]ll licenses or agreements" and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale responds that most, if not all, of its license agreements contain confidentiality provisions that require Freescale to obtain the consent of the other party prior to disclosing the contents of the agreement. Freescale is in the process of contacting these other parties and will produce relevant, responsive agreements after it receives consent to do so.

**REQUEST NO. 66:**

All documents that refer to, discuss, evidence, mention or constitute any contracts or license agreements, including drafts, in which Freescale has licensed, or licenses, or considering licensing products, technology or patents from or to third parties relating to microprocessor, microcontroller, processor or memory technologies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this document request to the extent it requests “[a]ll documents” relating to all Freescale licenses and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale responds that most, if not all, of its license agreements contain confidentiality provisions that require Freescale to obtain the consent of the other party prior to disclosing the contents of the agreement. Freescale is in the process of contacting these other parties and will produce relevant, responsive agreements after it receives consent to do so.

**REQUEST NO. 67:**

All documents relating to your policies on licensing or cross-licensing patents, know-how or technology.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it requests “[a]ll documents” relating to licensing of “know-how or technology” and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to the undefined terms “policies” and “know-how or technology” as vague and ambiguous.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 68:**

Documents sufficient to identify any third parties that manufacture any Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Products” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003. Freescale objects to

this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale responds that it is not presently aware of any non-privileged, relevant, and responsive documents, but if Freescale becomes aware of any such documents it will produce them.

**REQUEST NO. 69:**

All articles, speeches, presentations or interviews, both internal and external, that have been written and/or given by your employees, officers, directors or other of your representatives relating to Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 70:**

All press releases from 2000 to the present relating to Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 71:**

All documents relating to ProMOS or the patents-in-suit, including but not limited to documents that relate to your first awareness of any of the patents-in-suit and your earliest notice of potential infringement of any of the patents-in-suit.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 72:**

All documents relating to communications exchanged between you and any third party relating to the patents-in-suit, this lawsuit and/or ProMOS.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 73:**

Each Freescale meeting agenda, corporate minutes or minutes of meetings relating to the patents-in-suit, this lawsuit and/or ProMOS products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it requests documents

from “each” meeting relating to ProMOS and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale responds that it is not presently aware of any non-privileged, relevant, and responsive documents, but if Freescale becomes aware of any such documents it will produce them.

**REQUEST NO. 74:**

All documents relating to any effort by Freescale or anyone else on its behalf to design, redesign, commercialize or modify any Freescale Product in view of the patents-in-suit.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic on the grounds that it purports to require Freescale to interview all of its employees and search all of its files worldwide. Freescale objects to this request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

**REQUEST NO. 75:**

All documents relating to any attempt by Freescale or anyone on its behalf to design around and/or avoid infringement of the patents-in-suit by any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature under the parties' proposed Rule 16 Scheduling Order, because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products, the identity of the asserted claims, and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products, and because the Court has not yet construed any of the claims of any of the Patents-in-Suit. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic on the grounds that it purports to require Freescale to interview all of its employees and search all of its files worldwide. Freescale objects to this request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

**REQUEST NO. 76:**

All documents related or referring to any ProMOS patent.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it requests "[a]ll



documents” relating to “any ProMOS patent” and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession related to the Patents-in-Suit.

**REQUEST NO. 77:**

All documents relating to your evaluation, analysis, or consideration of the patents-in-suit, including but not limited to any reverse engineering or testing performed on any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature under the parties’ proposed Rule 16 Scheduling Order, because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products, the identity of the asserted claims, and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products, and because the Court has not yet construed any of the claims of any of the Patents-in-Suit. Freescale objects to this request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

**REQUEST NO. 78:**

All documents relating to your consideration of whether or not to obtain a license from ProMOS for the patents-in-suit.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature under the parties’ proposed Rule 16 Scheduling Order, because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the

accused Freescale products, the identity of the asserted claims, and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products, and because the Court has not yet construed any of the claims of any of the Patents-in-Suit. Freescale objects to this request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

**REQUEST NO. 79:**

All documents found or identified during any enforceability, prior art or invalidity searches, or any other studies relating to the patents-in-suit, including any copies of patents, publications, or other prior art identified during such searches or studies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 80:**

All documents that relate, support, or contradict Freescale's assertion that the patents-in-suit are invalid for any reason, including but not limited to anticipation or obviousness.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale object to this request as overly broad and unduly burdensome to the extent it requests "[a]ll documents" relating to the requested topic on the grounds that it purports to require Freescale to interview all of its employees and search all of its files worldwide.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 81:**

All documents that Freescale contends constitute prior art to the patents-in suit.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as overly broad and unduly burdensome to the extent it requests “[a]ll documents” relating to the requested topic on the grounds that it purports to require Freescale to interview all of its employees and search all of its files worldwide.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 82:**

All documents that relate, support, or contradict Freescale’s assertion that the patents-in-suit are unenforceable.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this document request as overly broad and unduly burdensome to the extent it requests “[a]ll documents” relating to the requested topic on the grounds that it purports to require Freescale to interview all of its employees and search all of its files worldwide. Freescale objects to this request to the extent it seeks documents outside of the possession, custody, or control of Freescale.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 83:**

All opinion letters, memoranda, or other documents relating to your contentions on validity/invalidity, infringement/non-infringement, or enforceability/unenforceability of the patents-in-suit.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature under the parties' proposed Rule 16 Scheduling Order, because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products, the identity of the asserted claims, and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products, and because the Court has not yet construed any of the claims of any of the Patents-in-Suit. Freescale objects to this request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

**REQUEST NO. 84:**

All documents supporting, refuting or relating in any way to the affirmative defenses or counterclaims set forth in your Answer to the Complaint.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this document request as overly broad and unduly burdensome to the extent it requests "[a]ll documents" relating to the requested topic on the grounds that it purports to require Freescale to interview all of its employees and search all of its files worldwide.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 85:**

All documents relating to any contention by you that your products do not infringe the patents-in-suit, including but not limited to documents relating to the interpretation, scope, and meaning of the claims in any of the patents-in-suit.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this document request as overly broad and unduly burdensome to the extent it requests “[a]ll documents” relating to the requested topic on the grounds that it purports to require Freescale to interview all of its employees and search all of its files worldwide.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 86:**

All opinions of counsel obtained with respect to infringement, validity, or enforceability of the patents-in-suit upon which you intend to rely at trial to defend against claims of willful infringement, inducement to infringe, or contributory infringement.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

**REQUEST NO. 87:**

All communications or opinions of officers, directors and/or employees of yours with respect to infringement, validity, or enforceability of the patents-in-suit or regarding any licensing negotiations with ProMOS.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 88:**

Documents sufficient to show by month or calendar quarter for each year since 2000 the number of each version of each model of Freescale Product manufactured, used, sold or distributed in the United States.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time.

**REQUEST NO. 89:**

Documents sufficient to show by month or calendar quarter for each year since 2000 the volume of sales in dollars from the sale or distribution of each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time.

Freescale will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescale to respond with the requested information regarding relevant Freescale products.

**REQUEST NO. 90:**

All projections, forecasts, business plans, strategic plans, fiscal plans, marketing plans or sales plans relating to the sale of Freescale Products from 2000 to the present, including documents containing projections through calendar year 2012.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly

burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 91:**

All documents relating to the means by which sales or sales information relating to each version of each model of Freescale Product is maintained and tracked by or on behalf of Freescale.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time, and to the extent it requests “[a]ll documents” relating to the requested



topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 92:**

All versions of all part number decoders or legends for each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

**REQUEST NO. 93:**

Current and historical price lists for each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor

reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time.

**REQUEST NO. 94:**

All documents relating to returns of, or complaints, dissatisfaction, negative comments, unfavorable opinions or suggestions for improvement regarding each version of each model of Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Products” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests “[a]ll documents” relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 95:**

All documents relating to favorable, positive, commendatory, or complimentary feedback, comments or opinions regarding each version of each model of Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 96:**

All documents relating to favorable, positive, commendatory, or complimentary feedback, comments or opinions regarding any ProMOS product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as overly broad and unduly burdensome to the extent it seeks documents outside of the possession, custody, or control of Freescale and to the extent that the requested information is publicly available and could be obtained by ProMOS just as easily as Freescale. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent that it seeks "all documents" relating to "any ProMOS

product” and to the extent it not limited to the subject matter of the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale responds that it is not presently aware of any non-privileged, relevant, and responsive documents, but if Freescale becomes aware of any such documents it will produce them.

**REQUEST NO. 97:**

All documents relating to sales, distribution or importation agreements entered into between Freescale and any third party for each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

**REQUEST NO. 98:**

Documents sufficient to show each of your distributors, resellers and customers of each version of each model of Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation

of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

**REQUEST NO. 99:**

All documents relating to purchase orders and/or specifications received from customers or potential customers for each version of each model of Freescale Product, including all drawings and information received therewith.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time.

**REQUEST NO. 100:**

All documents relating to market shares for Freescale and its competitors for each of the Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party. Freescale objects to this request as overly broad and unduly burdensome to the extent it seeks documents outside of the possession, custody, or control of Freescale and to the extent that the requested information is publicly available and could be obtained by ProMOS just as easily as Freescale.

Without waiving any and subject to all of the foregoing objections, Freescale will produce any non-privileged documents in its possession responsive to this request.

**REQUEST NO. 101:**

Summary documents categorized by year and by product type and name regarding the following: (1) Freescale's total unit and dollar volumes for Freescale Products manufactured, sold, or offered for sale by you from 2000 to the present, including projections through calendar year 2012; and (2) revenues, costs (fixed and variable), gross profit, and net profit for all such products manufactured, sold or offered for sale by you from 2000 to the present, including projections through calendar year 2012.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time.

**REQUEST NO. 102:**

Summary documents categorized by year and by product type and name regarding gross expenses, including but not limited to direct labor costs, direct manufacturing costs, selling costs, variable overhead costs, incurred in the manufacture, distribution, or sale of Freescale Products from 2000 to the present, including projections through calendar year 2012.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term

“Freescale Product” is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time.

**REQUEST NO. 103:**

Documents sufficient to show the date of the first sale of each Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS’s infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term “Freescale Product” is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time.

**REQUEST NO. 104:**

Summary documents identifying the distributors and retailers to whom you have sold each Freescale Product from 2000 through the present, including the name, address, products(s) sold by model number, number of units sold, date of sale, date of shipment, and sales price.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information



concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited to products made, used, offered for sale, or sold within the United States, or imported into the United States, and, with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, is not properly limited in time.

**REQUEST NO. 105:**

Financial statements, including profit and loss statements, income statements, balance sheets, statements of cash flow, statements of retained earnings, and notes thereto for Freescale and any of its affiliates, divisions, subsidiaries, or parent companies.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it is not limited to the subject matter of the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 106:**

All documents relating to market, industry or consumer studies, surveys, or analyses of any Freescale Product and/or any competitor's product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as overly broad and unduly burdensome to the extent it seeks documents outside of the

possession, custody, or control of Freescale. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it is not limited to the subject matter of the claims or defenses raised in the lawsuit by either party. Freescale objects to this request as unduly burdensome to the extent that the requested information is publicly available and could be obtained by ProMOS just as easily as Freescale.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request.

**REQUEST NO. 107:**

All drafts, proposals, and final copies of advertising, sales, or promotional literature, including but not limited to television and print media advertising, brochures and trade show promotional material, catalogues, price lists, sell sheets, product descriptions, sales literature, drawings, videotapes, audio tapes, electronic media, or photographs for advertising, point-of-sale commercials, or other promotional material for Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (e.g., the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter

of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 108:**

All memoranda, correspondence, bulletins, newsletters, or other documents that currently or since 2000 have been distributed to, made available to, received from, or drafted by your present or former employees engaged in marketing or sales functions relating to Freescale Products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Products" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 109:**

All documents prepared by, provided by, sent to, or received from your advertising agencies or public relations firms relating to any Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information

concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003, and to the extent it requests "[a]ll documents" relating to the requested topic and is not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims or defenses raised in the lawsuit by either party.

**REQUEST NO. 110:**

All documents that you may introduce as exhibits at the trial of this matter.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature. Freescale objects to this request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request in accordance with the Federal Rules of Civil Procedure and the Court's orders.

**REQUEST NO. 111:**

All documents identifying by name, company, address and title, all third parties hired by you and your counsel to investigate the above-captioned litigation, ProMOS, the patents-in-suit, or any ProMOS products.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it is not limited to the subject matter of the claims or defenses raised in the lawsuit by either party. Freescale objects to this request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request in accordance with the Federal Rules of Civil Procedure and the Court's orders.

**REQUEST NO. 112:**

Ten samples of each Freescale Product.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature because ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent the term "Freescale Product" is not properly limited in time with respect to any products accused of infringing the Fortin patent, which did not issue until December 30, 2003.

**REQUEST NO. 113:**

Any and all witness statements taken in connection with this litigation.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request as vague and ambiguous to the extent it requests all “witness statements.” As Freescale interprets that term, Freescale responds that it is not presently aware of any non-privileged, relevant, and responsive documents, but if Freescale becomes aware of any such documents it will produce them.

**REQUEST NO. 114:**

All documents provided to any person(s) that you expect to call as an expert witness at trial.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it is not limited to the subject matter of the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request in accordance with the Federal Rules of Civil Procedure and the Court’s orders.

**REQUEST NO. 115:**

All documents relied upon by any person(s) that you expect to a call as an expert witness at trial in forming the opinion(s) as to which the person(s) will or may testify.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this document request as premature.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request in accordance with the Federal Rules of Civil Procedure and the Court's orders.

**REQUEST NO. 116:**

All documents relating to each person you employ, have employed, or have retained as an expert, including but not limited to curriculum vitae, resumes, retention agreements, letters, statements, and communications.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine. Freescale objects to this request as overly broad, unduly burdensome, and seeking information neither relevant to the subject matter of this lawsuit nor reasonably calculated to lead to the discovery of admissible evidence to the extent it is not limited to the subject matter of the claims or defenses raised in the lawsuit by either party.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request in accordance with the Federal Rules of Civil Procedure and the Court's orders.

**REQUEST NO. 117:**

All documents on which you intend to rely for and/or that might be relevant to a reasonable royalty analysis or calculation using the so-called *Georgia Pacific* factors.

**RESPONSE:**

In addition to its General Objections, Freescale objects to this document request as premature. Freescale objects to this request to the extent it seeks information protected by the attorney-client privilege and/or the attorney work product doctrine.

Without waiving any and subject to all of the foregoing objections, Freescale will produce non-privileged documents in its possession responsive to this request in accordance with the Federal Rules of Civil Procedure and the Court's orders.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

*/s/ Mary B. Graham*

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Dated: May 17, 2007  
830702

*Attorneys for Freescale Semiconductor, Inc.*



**CERTIFICATE OF SERVICE**

I hereby certify that on May 17, 2007, true and correct copies of the foregoing were caused to be served upon the following individuals in the manner indicated:

**BY E-MAIL AND HAND DELIVERY**

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**BY E-MAIL AND FEDERAL EXPRESS**

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*/s/ Mary B. Graham*

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Mary B. Graham (#2256)

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June 25, 2007

Sten A. Jensen  
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## BY ELECTRONIC MAIL

Kevin P. Ferguson  
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RE: ProMOS Technologies, Inc. v. Freescale Semiconductor, Inc., No. 06-788 (JJF) (D. Del.); Freescale Semiconductor, Inc. v. ProMOS Technologies, Inc., No. 4:06-cv-491 (E.D. Tex.)

Dear Kevin:

I am writing regarding Freescale's continuing failure to comply with its discovery obligations in the Delaware and Texas lawsuits. Notwithstanding the suggestion implicit in your letter of June 19, 2007, it is Freescale—and not ProMOS—that has fallen woefully short of its discovery obligations. Freescale's discovery responses are deficient in at least the following respects:

### Delaware Interrogatories:

#### Response to Interrogatories No. 1 and 7:

You have objected to these interrogatories, which seek basic information about each of the Freescale Products (as that term is defined in the discovery requests) and sales information relating thereto, on the ground that ProMOS "has not provided Freescale with sufficient information concerning its allegations (e.g., the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions)...." Your objections are improper. The term "Freescale Products" was defined in the requests so as to specifically delineate those types of products that are covered by the interrogatories, without need to consult infringement contentions. Please confirm that Freescale will supplement its responses accordingly.

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**Response to Interrogatory No. 2:**

Rather than responding to this interrogatory, which requests information about any efforts to design around the patents-in-suit or create a non-infringing alternative thereto, you have refused to provide any answer and instead indicated that "Freescale has until five (5) weeks before the fact discovery deadline" to disclose the basis for its defense to a claim for willful infringement. However, the information sought by this interrogatory is relevant to a number of issues in dispute, including for example damages and doctrine-of-equivalence infringement. As a result, there simply is no basis for withholding the requested information until the close of discovery.

**Response to Interrogatory No. 3:**

In response to this interrogatory, which seeks information regarding licenses and other patent- or technology-related agreements that Freescale has been a party to since 2000, you have indicated that Freescale is in the process of contacting third parties to obtain their consent before disclosing the terms of responsive agreements. Please provide an update on the status and schedule for Freescale's efforts in that regard and, if license agreements have already been produced as you indicated in our discussion last week, please identify the bates numbers of those agreements pursuant to Rule 33(d).

**Response to Interrogatory No. 4:**

This interrogatory asks Freescale to state whether it contends that any of the Freescale Products (as defined in the discovery requests) do not infringe the patents-in-suit, and if so, to provide the basis for such assertion. Rather than providing the information requested in the interrogatory, you have issued a number of improper objections. To the extent you objected on the ground that ProMOS has not yet provided its infringement contentions, ProMOS provided those contentions with the interrogatory responses it served on May 14. Accordingly, please supplement your response to this interrogatory and provide the requested information.

**Response to Interrogatory No. 5:**

Your answer to this interrogatory, which seeks the basis for your affirmative defenses and counterclaims, contains improper objections and fails to provide the element-by-element analysis of prior art and other information required by the interrogatory. Among other things, your answer does not provide any support for your affirmative defenses of prosecution history estoppel, equitable estoppel, laches, and your damages defenses under 35 U.S.C. §§ 286 and 287. Please correct these deficiencies.

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### **Responses to Interrogatories No. 9-13:**

Interrogatories 9 through 13 ask Freescale to identify the three persons who are the most knowledgeable about various topics. Rather than providing the information requested in each interrogatory, you have issued improper objections and vaguely referred us to documents which have yet to be produced. Because these interrogatories require Freescale to identify specific persons having the most knowledge of certain topics, by definition they cannot be answered by reference to a document production. Given the very straightforward and basic nature of these Interrogatories, we request that you correct and supplement your deficient answers immediately.

### **Response to Interrogatory No. 14:**

This interrogatory seeks information regarding individuals with relevant knowledge. Your answer does nothing more than incorporate by reference your initial disclosures, which themselves contain very little information regarding the identity of relevant witnesses. Your answer also purports to rely on Rule 33(d). That reliance is improper for two reasons: (1) this interrogatory seeks the identification of individuals with knowledge, a topic that is not susceptible to a Rule 33(d) response, and (2) even if reliance on Rule 33(d) was appropriate here, you have not identified any documents by bates label as is required by the Rule.

Please note that the issues noted above were first raised in a letter from Steve Routh dated May 18. In a subsequent meet and confer, we agreed that both parties would focus first on the information necessary to prepare for the June 8 mediation in Texas. The mediation was held two weeks ago and we still have not received supplemental answers to any of the interrogatory answers that we identified as deficient over a month ago (either in the Delaware case or the Texas case).

### **Delaware Document Requests:**

#### **A. Objections:**

##### **(1) Objections based on definition of "Freescale Products"**

You have objected to the vast majority of ProMOS's document requests as premature because, you assert, "ProMOS has not provided Freescale with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescale products and an explanation of ProMOS's infringement contentions) to permit Freescale to respond with information regarding relevant Freescale products." Moreover, you have refused to produce documents responsive to these requests until such time as ProMOS undertakes to provide supplemental information regarding its infringement contentions.

This objection, along with your blanket refusal to produce responsive documents pending receipt of infringement contentions from ProMOS, is highly improper. The term "Freescale Products" was defined in the requests so as to specifically delineate those types of products that are covered by the requests, without need to consult infringement contentions. Moreover, it is unreasonable

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for you to expect ProMOS to be able to compile meaningful infringement contentions until such time as you produce meaningful technical documents relating to Freescale's products. Moreover, Freescale has not produced any technical documents relating to the Chan patents, even with respect to products that were specifically identified as accused products by ProMOS in its interrogatory responses. Please supplement your responses and your document production to provide the technical and other information responsive to ProMOS's requests as drafted.

**(2) Objections based on request for "all documents"**

You also have objected to the vast majority of the document requests on the basis that they seek "'all documents' relating to the requested topic and are not limited to the subject matter of the asserted claims of the Patents-in-Suit or the claims and defenses raised in the lawsuit by either party." This objection is improper. Please confirm that you have not withheld any documents on the basis of this objection.

**(3) Refusal to produce responsive documents:**

In response to Requests No. 6-10, 16-20, 22-26, 32, 45, 52-56, 61, 63-64, 69-70, 74-75, 77-78, 83, 86, 88, 90-95, 97-99, 101-105, 107-109, 112, you have issued a number of improper objections and failed to indicate that you will be producing responsive documents. There is no legitimate basis for withholding any documents responsive to these requests. We hereby request that you immediately supplement your responses to confirm that you will produce all non-privileged documents responsive to these requests that are in Freescale's possession, custody or control.

**B. Document Production:**

**Document Request Nos. 6-10, 12-15:**

Freescale has failed to produce any documents that identify present and past employees, consultants, and contract employees as described in the requests. Moreover, Freescale has failed to produce any documents that would link any of its subsidiaries, departments or divisions with the functions specified in the requests. Please produce these documents immediately.

**Document Request Nos. 16-20, 43, 68:**

Freescale has failed to produce any documents responsive to these requests, which seek documents relating to third parties with whom Freescale has contracted for the specified purposes, documents relating to the place and process of manufacture, models manufactured, units manufactured, destination of units manufactured, and documents sufficient to identify third parties that manufacture any accused products. Please produce these documents immediately.

**Document Requests Nos. 21:**

Freescale has failed to produce any of its proxy statements for any of the specified years, Form 10-Qs for any of the specified years, annual reports for the years 2000 to 2003 and 2005 to the

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present, or Form 10-Ks for the years 2000 to 2004 and 2006. Please produce these documents immediately.

**Document Request Nos. 22-27, 28-31, 33-42, 44-49, 52-64, 69-70, 112:**

Freescall has failed to produce any documents responsive to these requests, which seek specified circuit diagrams, reference designs, schematics, pictures, drawings, schematics, blueprints, specifications, blueprints, block diagrams, source code, design specifications, test results, journals, notebooks, data sheets, engineering change orders, comparative testing documents, design meeting documents, prototypes, models, ten samples of each accused product, and other such documents. Nor has Freescall produced any meaningful technical documents relating to the cache memory products at all. These documents are critical to ProMOS's ability to prepare its case, and Freescall's failure to produce them is particularly troublesome in light of your letter of June 19, 2007, which purported to complain about ProMOS's failure to provide a detailed infringement claim chart for "every accused product." Obviously, ProMOS cannot be expected to prepare such charts unless and until Freescall produces technical documents relating to the products at issue. Please produce these documents immediately. It is particularly important that we receive these technical documents promptly because Judge Bush has now scheduled – in part at Freescall's request – a mediation session on August 17 that will focus on the parties' respective positions on technical issues.

**Document Request Nos. 65-67:**

Freescall has failed to produce any documents other than the Master Separation Agreement responsive to these requests, which seek copies of specified license or agreements. Notably, Freescall has failed to produce any license agreements with third parties and any drafts of agreements. Based on our call last week, I understand that you believe Freescall has produced a majority of the license agreements at issue. If that is your position, please identify the bates numbers of any such agreements.

**Document Request Nos. 71-79, 85-87:**

Freescall has failed to produce any documents responsive to these requests, which seek documents relating to ProMOS's claims of infringement and the patents-in-suit, including Freescall's effort to design around the patents-in-suit or modify the accused products in view thereof, any testing or reverse engineering performed on any Freescall product, Freescall's first awareness of the patents-in-suit, Freescall's earliest notice of potential infringement thereof, communications with third parties relating thereto, meeting minutes relating thereto, and any consideration by Freescall of whether to take a license from ProMOS. Please supplement your production immediately.

**Document Request Nos. 88-109, 117:**

Freescall has failed to produce in the Delaware lawsuit any documents responsive to these requests, which seek basic information necessary for a damages analysis. Moreover, even the



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Excel document you provided for purposes of the Texas mediation fails to satisfy Freescale's obligation under these requests. Please supplement your production immediately.

**Document Request Nos. 32, 50-51:**

Please indicate whether Freescale has produced all documents responsive to these requests, which seek reference and user manuals and process flows and process recipes. If Freescale has not yet produced all responsive documents, which seems likely given the small volume of materials produced, please supplement your production immediately.

**Texas Interrogatories:**

**Interrogatory Nos. 2-4, 8-10, and 13:**

Rather than providing narrative responses to these interrogatories, Freescale has referred ProMOS to documents produced in discovery. However, complete answer(s) to the interrogatories are not found within the documents referenced. For example, several of the requests ask for a description of "all facts and circumstances" relating to diligence between conception and reduction to practice or relating to first use, first public use, first offer for sale, and first sale. Similarly, interrogatory no. 13 requests Freescale to identify three individuals most knowledgeable about specified topics, which by definition cannot be answered by reference to a document production. As another example, please see your answer to interrogatory no. 2 which seeks the identity of any individuals who worked with the inventors, the positions of any such persons, and a description of that person's work related to the claimed inventions. Rather than answering any of these interrogatories, Freescale merely has referred to a range of documents. This is not an appropriate use of Rule 33(d). Please supplement your interrogatory answers immediately and provide responsive information.

**Interrogatory No. 5:**

Your answer to this interrogatory provides nothing more than conclusory statements regarding the applicability of various secondary considerations of non-obviousness. Please provide the information requested in this interrogatory, including a detailed factual description of the basis for your claim that the claimed inventions satisfied a long felt need, solved problems the industry failed to solve, had commercial success, were recognized by the industry, achieved unexpected results and/or were copied by others.

**Interrogatory Nos. 6 and 11:**

Freescale's answers to these interrogatories, which seek information about license agreements and communications with third parties relating to the patents-in-suit, fail to provide information about royalty rates, consideration given or received, or patents included in the license, and fail to identify which party initiated the communication and the bases for any third party allegation that its products do not infringe the patents in suit or that the patents-in-suit are invalid or unenforceable. Please immediately supplement the interrogatory answers and produce copies of



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the license agreements themselves. As noted above, if you believe the license agreements have been produced, please identify the bates numbers.

**Interrogatory Nos. 7 and 14:**

Rather than responding to these interrogatories, which relate to Freescale products that practice the patents-in-suit, Freescale states that it "has not asserted" that any of its own products practice the patents and that Freescale is "unaware of whether" any of its licensees' products practice the patents-in-suit. This answer is incomplete. Whether or not Freescale previously has asserted that its products practice the claims of the patents, the interrogatory requires Freescale now to state whether it so contends. Moreover, you have provided no information at all regarding the marking of any Freescale products or any of Freescale's licensees products as requested in interrogatory no. 14. Please supplement your answers to provide the requested information.

**Texas Document Requests:**

**Request Nos. 18, 21-22, 28, 45, 48-51, 52, 70, 78-79, 81-90, 94-95, and 100-102:**

Freescale has refused to produce documents responsive to these requests, which relate to any Freescale or licensee products which practice the patents-in-suit, on the grounds that "Freescale has not asserted" that any of its products practice the patents-in-suit. Whether or not Freescale previously has asserted that its products practice the claims of the patents, the request requires Freescale to produce responsive documents if, in fact, any such products practice the claims of the patent. Please confirm that you will produce all responsive documents.

**Request No. 17, 53-55**

Freescale has refused to produce documents responsive to these requests, which seek information relating to diligence in reduction to practice, obviousness, secondary considerations of non-obviousness, and commercial success until such time as ProMOS provides its invalidity contentions. This is an improper objection pursuant to Local Patent Rule 2-5. Moreover, this objection no longer is proper because ProMOS served its invalidity contentions on May 21, 2007. Please confirm that you will supplement your responses immediately.

**Request Nos. 72, 91-92:**

In response to these requests, which seek documents relating to contracts, license agreements and communications with third parties relating to the patents-in-suit, Freescale has asserted that it is in the process of contacting these third parties to obtain their consent before releasing the information. Please provide information on the status and schedule for Freescale's efforts in that regard, and provide all responsive information. Alternatively, if you believe you have produced a majority of the license agreements as you told me last week, please identify the bates numbers of any such agreements and provide a status report on any remaining agreements as to which you are waiting for consents.

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**Request No. 98:**

Freescall has refused to produce documents responsive to this request, which seeks financial statements, profits and loss statements, and balance sheets, on the grounds that Freescall does not believe such documents to be discoverable. This objection is improper. Please supplement your production accordingly.

\* \* \*

In addition to the foregoing, we request that you confirm that Freescall's supplemental discovery responses (including but not limited to those relating to corporate, financial and technical issues in the Delaware action) will cover issues relating to alleged infringement of the patents-in-suit by Motorola.

Please let me know when you will be available for a discovery conference in the next few days to discuss the foregoing issues.

Sincerely yours,



Sten Jensen

cc: William H. Wright  
Steven J. Routh  
David Witcoff  
F. Drexel Feeling  
Mary B. Graham  
John Day

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,

Plaintiff,

v.

FREESCALE SEMICONDUCTOR, INC.,

Defendant.

Civil Action No. 06-788 (JJF)

**NOTICE OF DEPOSITION PURSUANT TO RULE 30(b)(6)**

PLEASE TAKE NOTICE that Plaintiff ProMOS Technologies, Inc., will take the deposition of Defendant Freescale Semiconductor, Inc. ("Freescale"), pursuant to Fed. R. Civ. P. 30(b)(6), on the topics set forth in Exhibit A hereto, beginning at 9:00 a.m. on July 20, 2007, at the offices of Ashby & Geddes, 500 Delaware Avenue, 8th Floor, Wilmington, DE 19899. The deposition will be recorded stenographically and by videotape.

Pursuant to Rule 30(b)(6) of the Federal Rules of Civil Procedure, Freescale shall designate one or more officers, directors, managing agents, or other individuals to testify on its behalf as to matters known or reasonably known to Freescale regarding the topics set forth below. If more than one person is so designated, Freescale shall set forth in advance of the deposition the topic(s) or area(s) on which each designee will provide testimony.

**Definitions And Instructions**

1. The term "Freescale" shall mean Freescale Semiconductor, Inc., and any parent, subsidiaries, divisions, affiliates, and/or branches of the foregoing entities, any wholly or partly owned entities of the foregoing, any and all predecessors and successors thereof, and any entities acting or purporting to act for or on behalf of, or who are subject to the direction or control of, any of the foregoing entities, including agents, employees, officers, directors, attorneys,

consultants, contractors, subcontractors and representatives.

2. The term "document" will have the same meaning as that term is given in the "Definitions" section of ProMOS Technology Inc.'s First Request for Production of Documents served April 12, 2007.

3. The term Freescale Product(s) will have the same meaning as that term is given in the "Definitions" section of ProMOS Technology Inc.'s First Request for Production of Documents served April 12, 2007.

**Topics For Examination At Deposition**

1. Documents maintained by Freescale that evidence the design and/or features of cache memories contained in Freescale Products.

2. Documents maintained by Freescale that evidence how cache memories are accessed in and/or used in Freescale Products.

3. Documents maintained by Freescale that evidence the design and/or features of cache memory controllers contained in Freescale Products.

4. Features associated with cache memories contained in Freescale Products.

5. Features associated with cache memory controllers contained in Freescale Products.

6. Any website maintained by Freescale and any information set forth therein that discloses features associated with cache memories or cache memory controllers contained in Freescale Products.

ASHBY & GEDDES

/S/

Steven J. Batlick (I.D. #2114)  
John G. Day (I.D. #2403)  
Lauren E. Maguire (I.D. #4261)  
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E-Mail: sjrouth@hhlaw.com  
sajensen@hhlaw.com

Dated: July 3, 2007

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,

Plaintiff,

v.

FREESCALE SEMICONDUCTOR, INC.,

Defendant.

C.A. No. 06-788-JJF

**NOTICE OF SERVICE**

The undersigned hereby certifies that on the 3<sup>rd</sup> day of July, 2007, **PROMOS TECHNOLOGIES, INC.'S NOTICE OF DEPOSITION PURSUANT TO RULE 30(b)(6)** was served upon the following counsel of record at the address and in the manner indicated:

Mary B. Graham, Esquire  
Morris, Nichols, Arsht & Tunnell LLP  
1201 N. Market Street  
Wilmington, DE 19899-1347

VIA ELECTRONIC MAIL

Kevin P. Ferguson, Esquire  
Jones Day  
77 West Wacker  
Chicago, IL 60601-1692

VIA ELECTRONIC MAIL

F. Drexel Feeling, Esquire  
Jones Day  
North Point  
901 Lakeside Avenue  
Cleveland, OH 44114-1190

VIA ELECTRONIC MAIL

ASHBY & GEDDES

/s/ John G. Day

Steven J. Balick (I.D. #2114)  
John G. Day (I.D. #2403)  
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500 Delaware Avenue, 8<sup>th</sup> Floor  
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Washington, DC 20004  
Telephone: (202) 637-5600  
Facsimile: (202) 637-5910

Dated: July 5, 2007  
177270.1

**CERTIFICATE OF SERVICE**

I hereby certify that on the 5<sup>th</sup> day of July, 2007, the attached **NOTICE OF SERVICE** was served upon the below-named counsel of record at the address and in the manner indicated:

Mary B. Graham, Esquire  
Morris, Nichols, Arsht & Tunnell LLP  
1201 N. Market Street  
P.O. Box 1347  
Wilmington, DE 19899-1347

VIA ELECTRONIC MAIL

Kevin P. Ferguson, Esquire  
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F. Drexel Feeling, Esquire  
Jones Day  
North Point  
901 Lakeside Avenue  
Cleveland, OH 44114-1190

VIA ELECTRONIC MAIL

*/s/ John G. Day*

\_\_\_\_\_  
John G. Day



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Page 1 of 1

**Discovery Documents**

1:06-cv-00788-JJF Promos Technologies Inc. v. Freescale Semiconductor Inc.  
PATENT, PaperDocuments

**U.S. District Court**

**District of Delaware**

**Notice of Electronic Filing**

The following transaction was entered by Day, John on 7/5/2007 at 10:44 AM EDT and filed on 7/5/2007

**Case Name:** Promos Technologies Inc. v. Freescale Semiconductor Inc.

**Case Number:** 1:06-cv-788

**Filer:** Promos Technologies Inc.

**Document Number:** 27

**Docket Text:**

NOTICE OF SERVICE of Notice of Deposition Pursuant to Rule 30(b)(6) by Promos Technologies Inc..(Day, John)

**1:06-cv-788 Notice has been electronically mailed to:**

Steven J. Balick sbalick@ashby-geddes.com, dfioravanti@ashby-geddes.com, jday@ashby-geddes.com, lmaguire@ashby-geddes.com, mkipp@ashby-geddes.com, nlopez@ashby-geddes.com, rgamory@ashby-geddes.com, tlydon@ashby-geddes.com

John G. Day jday@ashby-geddes.com, dfioravanti@ashby-geddes.com, dharker@ashby-geddes.com, lmaguire@ashby-geddes.com, mkipp@ashby-geddes.com, nlopez@ashby-geddes.com, rgamory@ashby-geddes.com, sbalick@ashby-geddes.com, tlydon@ashby-geddes.com

Mary B. Graham dmyers@mnat.com, mbgefiling@mnat.com

**1:06-cv-788 Notice has been delivered by other means to:**

The following document(s) are associated with this transaction:

**Document description:**Main Document

**Original filename:**n/a

**Electronic document Stamp:**

[STAMP dcecfStamp\_ID=1079733196 [Date=7/5/2007] [FileNumber=410930-0]  
[ad5689bf7b36a6686dc4584cf2e9543344d9fa55dfd0f43736b07dbd04eab03321509  
1a848cc1259d0b4e8e2f736f0672515854a114493865f291062eb212f11]]

REDACTED

## JONES DAY

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kpferguson@jonesday.com

JP239140  
878247-615013

July 10, 2007

### VIA EMAIL

Sten A. Jensen, Esq.  
Hogan & Hartson LLP  
555 Thirteenth Street, NW  
Washington, DC 20004  
sajensen@hhlaw.com

Re: ProMOS Technologies v. Freescale Semiconductor, Inc.

Dear Sten:

I am writing with regard to ProMOS' Motion to Compel filed last Friday night and the issue of where discovery stands for both Freescale and ProMOS. As Freescale advised ProMOS shortly before ProMOS filed its motion, ProMOS misstated Freescale's position with regard to ProMOS' Chan-related discovery requests. That is precisely why we suggested conducting a proper meet-and-confer, but ProMOS unfortunately ignored this suggestion and filed its motion anyway.

Freescale's position is basic. ProMOS is seeking document discovery that is exceptionally broad and burdensome, both in terms of the scope of products and the breadth of documents related to those products. Freescale's position from the outset has been that there needs to be a narrowing in both scope and breadth of that discovery. ProMOS has not seriously disputed that its requests are overbroad, and indeed its motion effectively acknowledges as much.

ProMOS' motion, however, continues to misstate Freescale's discovery position. For example, Freescale has *never* "suggested," as ProMOS asserts, that ProMOS must provide infringement contentions before Freescale would produce technical documents related to Chan-accused products. To the contrary, Freescale repeatedly said that it would work with ProMOS to provide any documents ProMOS reasonably requested pertaining to the Chan patents, and asked ProMOS to tell us precisely what documents it wanted. In this regard, Freescale asked ProMOS to either: (1) narrow its definition of "Freescale Products" to some workable definition even arguably related to the Chan patents' claims, rather than seeking discovery on every product Freescale makes that contains, uses, works with or relies in any way on a cache memory (which Steve Routh acknowledged during our May 23 meet-and-confer call was much broader than the inventions claimed in the Chan patents), or (2) specifically identify products that ProMOS

CHI-1596888v3

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A0187

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Page 2

believes infringe the Chan patents. Similarly, Freescale also asked ProMOS to specify the types of documents it really wanted relating to the Chan-accused products, rather than seeking virtually every document in Freescale's possession as literally requested in ProMOS' document requests (*see, e.g.*, document request nos. 6-10 and 16-20 [seeking every document containing the name of any employee or third-party who ever had any involvement whatsoever with any accused product] and document request no. 38 [seeking literally every document pertaining to each accused product]). Although ProMOS stated in each of our discussions that they would consider and respond to Freescale's requests to narrow its discovery requests; however, it simply repeated its earlier demands and then filed its motion to compel instead. Moreover, ProMOS' identification of more than 100 additional accused products shortly before filing its motion to compel obviously does not comply with its meet-and-confer obligations under the Local Rules. It is for these reasons (as well as those detailed below) that Freescale requests that ProMOS withdraw its motion until such time as the parties have properly conferred and determined whether any dispute does, in fact, exist that cannot be privately resolved between the parties.

We also were surprised to see in ProMOS' motion the unsupported assertion that it was "willing to allow Freescale to make a limited production of critical technical documents relating to its other cache memory products..." This is contrary to all of ProMOS' previous demands that Freescale produce "all documents" responsive to several dozen requests for production (*see, e.g.*, section (2) on page 3 of your May 18, 2007 letter and section A(2) on page 4 of your June 25, 2007 letter). In fact, ProMOS' motion is the first effort by ProMOS to define a set of "critical technical documents" sufficient to allow it to investigate its infringement allegations. We view this as a positive step and is precisely what we requested almost two months ago.

As promised during our July 5 meet-and-confer, one day in advance of ProMOS' motion to compel, Freescale has already produced the requested critical technical documents for each of the four product families which ProMOS deemed "representative" and for which ProMOS generated infringement claim charts. Additionally, and once again contrary to the representations in ProMOS' motion, Freescale has also produced critical technical documents for 5 other Freescale product families specifically accused in ProMOS' interrogatory responses, including the Coldfire V5 and V5E processor core, the e600 processor core, the i.MX31 processor, the Power Quicc II processor, and the Power Quicc III processor product families. Before making additional demands and accusations, please review the technical materials already produced for the previously-identified accused "representative" products, as ProMOS promised it would during our July 5 meet-and-confer, and let me know if ProMOS believes that additional information is needed to complete its infringement analysis.

From the overbreadth of newly accused products (*e.g.*, the MPC 5533 and 5534 processor products do not even "use, incorporate, work with or rely upon cache memory"), it appears that ProMOS has still not conducted any, let alone a good faith, review of the materials publicly available on Freescale's website to either: (1) narrow its definition of "Freescale Products" to something less than any product which contains, uses, works with or relies in any way on a cache

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Page 3

memory or (2) even identify products that at least contain cache memories. Nevertheless, even through ProMOS apparently refuses to accept its burden of properly defining the discovery it seeks, in an effort to resolve this matter and move forward with the case, Freescale is willing to produce critical technical documents for all relevant products meeting the following criteria related to the claimed inventions:

Criteria for Chan '709 — (a) a first and second port; (b) a write register between the first port and the random access memory and between the first port and the second port; and (c) a write-back register between the random access memory and the second port.

Criteria for Chan '241 — (a) A dual port cache memory having a first port connected to a first data bus and a second port connected to a second data bus; and (b) A cache controller connected to the dual port cache memory, the cache controller having a first port connected to a first address bus and a second port connected to a second address bus such that the dual port cache memory and the cache controller are connected in parallel between a host processor and system memory.

Please let us know if these criteria are agreeable and Freescale will produce critical technical documents related to all qualifying products.

In a related matter, Freescale does not understand what ProMOS is seeking by way of the extremely broad topics in ProMOS' recent Rule 30(b)(6) notice. Freescale has repeatedly informed ProMOS that it generates three categories of documents regarding its products: (i) publicly available product manuals, (ii) proprietary Freescale circuit/subsystem workbooks/manuals, and (iii) RTL code. If this is what ProMOS is seeking through the noticed deposition, please explain why such a deposition is necessary because we do not understand why it is necessary to conduct a deposition about an attorney's representation. If ProMOS is seeking more than this confirmation, then please specifically identify the additional information sought so Freescale can better assess the deposition request and the witnesses who would be appropriate.

Finally, ProMOS' motion complaining of a failure to produce documents is ironic given ProMOS' own failure to produce virtually any documents relevant to Freescale's document requests, including but not limited to:

- Documents concerning invention disclosures (and drafts of same), engineering/laboratory/inventor notebooks, drawings/sketches, prototypes, notes, schematics, experimental or test results, computer modeling, correspondence, project status reports, e-mails, or other documents memorializing any portion of the conception/development/reduction to practice process;

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- Documents sufficient to identify each person that worked on the project or projects that led to the development of the inventions claimed in the Chan patents and documents sufficient to identify each person's contribution to the project;

- Internal ProMOS, Mosel and Mosel Vitelic file histories and other correspondence regarding the filing and prosecution of the Chan patents;

- Documents concerning communication between ProMOS and Mosel Vitelic regarding the Chan patents and the patent coverage or scope of patent claims;

- Documents concerning valuation of the Chan patents, claim construction, prior art, patentability, novelty, validity, enforceability, infringement and/or the subject matter disclosed or claimed by the Chan patents that were generated by ProMOS in connection with its due diligence investigation performed in its dealings with Mosel Vitelic and its acquisition of an interest in the Chan patents; and

- Reverse engineering reports, test reports, or studies of Freescale products and other documents concerning the decision to file suit.

We requested these documents three months ago and continue to prefer to avoid involving the Court, but we understandably cannot afford to wait much longer. Please tell us when we will receive the documents identified above.

Given the pending deadline for Freescale to respond to the motion to compel, please indicate if the proposed compromise is acceptable and otherwise respond to the requests of this letter by noon Thursday, July 12, 2007.

Very truly yours,

A handwritten signature in black ink, appearing to read "Kevin P. Ferguson". The signature is stylized with a large, looped "K" and a cursive "F".

Kevin P. Ferguson

## JONES DAY

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July 16, 2007

### VIA EMAIL

Susan Cook, Esq.  
Hogan & Hartson LLP  
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smcook@hhlaw.com

Re: ProMOS Technologies v. Freescale Semiconductor, Inc.

Dear Susan:

We have your letter of July 12, which we understand now to be making a proposal to narrow ProMOS's request for documents and resolve its motion to compel. We are hopeful that a resolution may now be possible.

Preliminarily, we note that your July 12 letter does not accurately characterize the meet-and-confer process or Freescale's position taken in that process. I will not repeat everything in my letter to Sten Jensen of July 10, but note, by way of example, that your letter (p. 2) is wrong when it says that Freescale has demanded that ProMOS identify a product as infringing and substantiate that identification with a claim chart before Freescale would provide any discovery relating to that product.<sup>1</sup> Freescale has *never* conditioned its production of documents upon claim charts; instead, Freescale has asked ProMOS for months to narrow its discovery requests which ProMOS effectively acknowledges are overbroad. In the face of ProMOS's steadfast refusal to narrow its requests, we have consistently asked that ProMOS either: (1) identify specific products or product families that it believes may infringe the Chan patents or (2) provide Freescale with some criteria reasonably related to infringement of the Chan patents (as opposed to any product involving a cache memory in any way) so that document production could proceed in a reasonable and bounded fashion. My letter of July 10 proceeded to suggest criteria under the second approach. We assume that there is now no misunderstanding about Freescale's position.

Turning to a path forward, we understand you now to be expanding your list of Chan-accused products and that you have affirmatively done an infringement analysis of those

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<sup>1</sup> Additionally, Freescale continues to maintain that ProMOS failed to properly meet-and-confer on this motion to compel. ProMOS' position that Freescale was required to capitulate to producing documents for the more than 100 newly accused products – without a chance to substantively review the list of products – to avoid the filing of ProMOS' motion to compel is unreasonable, especially given ProMOS' months-long delay in identifying the accused products.

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products given the statement on page 3 of your letter that the more than 100 products on the list provided are the "Freescale products that ProMOS has determined meet the claim elements of the Chan patents." We also understand that you are in effect proceeding under our first suggested approach and that you are saying that this is the operative list of accused products (in addition to the earlier accused product families), subject perhaps to learning something in discovery that you could not have known from the technical information on the website. Finally, we understand that you are requesting that we produce "critical documents" (which we understand to be category (i)-(ii) documents outlined on page 3 of my letter of July 10) for representative products of the accused families of cache products and that the parties can later address the production of other documents. In keeping with our position, and my July 10 letter, this approach is generally agreeable to us, and in that regard, seek clarification on the point below.

Similar to the products you now say were typos, Freescale continues to believe that other products on ProMOS's list of additional Chan-accused products are mistakes and are not the proper subject of discovery because they could not infringe the Chan patents under any reasonable interpretation of the claims. These products include: (1) products that do not contain a cache memory (*e.g.*, the Coldfire 2/3 cores, which contain only a cache controller) and (2) products with only an instruction cache that cannot be written to by the processor or written back into the system memory (*e.g.*, the MSC711x family of parts (SC1400 core)). Please let us know whether you intended to accuse these products, and if so, please give some "explanation of ProMOS' infringement contention" indicating how "ProMOS has determined [these two categories] meet the claim elements of the Chan patents," such that the burden and expense of discovery on these products is warranted.<sup>2</sup>

With regard to ProMOS' recent Rule 30(b)(6) notice, Freescale still asks that ProMOS clarify, revise and narrow its extremely broad topics. Taken literally, the topics, including the "[f]eatures associated with cache memories contained in Freescale Products," might require scores of witnesses, which we hope ProMOS does not truly expect. Thus, your notice is not clear on its face and we would like to discuss the topics with ProMOS to understand precisely what it is seeking, so that we can assess the scope and legitimacy of the requests and determine whether it is possible or appropriate to identify witnesses at this point in time. We note, however, that whatever the outcome of our meet-and-confer as far as the scope of testimony, it will not be possible to produce any witness on the date noticed of July 20.

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<sup>2</sup> Although these types of cache-related products may be encompassed within ProMOS' overbroad definition of Freescale Products that includes any product that contains, uses, works with or relies in any way on a cache memory, ProMOS must still be able to articulate some theory under which these products could infringe the claims of the Chan patents to have a good faith basis for demanding that Freescale produce extensive discovery relating to these products. If ProMOS cannot articulate some basis for its determination that the products "meet the claim elements of the Chan patents," Freescale maintains its objection that such discovery is not relevant, unduly burdensome and oppressive.



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Please let me know when you are available this afternoon or tomorrow afternoon to meet-and-confer on these issues.

Very truly yours,

A handwritten signature in black ink, appearing to read "Kevin P. Ferguson". The signature is written in a cursive, flowing style with a large initial "K".

Kevin P. Ferguson

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July 17, 2007

**BY ELECTRONIC MAIL AND  
OVERNIGHT MAIL**

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**RE: ProMOS Technologies, Inc. v. Freescale Semiconductor Inc. (D. Del. C.A. No. 06-7888)**

Dear Kevin:

This letter responds to yours of July 16, 2007, in which you indicated that Freescale: (1) is now willing to produce certain "critical documents" relating to *some of the products* on the list we provided to you on July 6, 2007, but (2) remains unwilling to produce any documents for certain other products on the list unless and until ProMOS provides an "'explanation of ProMOS's infringement contention' indicating how 'ProMOS has determined [these two categories] meet the claim elements of the Chan patents,'" that satisfies you that "the burden and expense of discovery on these products is warranted." (7/16/07 letter from K. Ferguson, page 2.)

It seems we are still going in circles, although perhaps the circles are getting smaller. As noted in our previous correspondence and motion to compel, ProMOS does not have the burden of persuading you that Freescale products may infringe the Chan patents before we are entitled to discovery on basic technical documents relating to such products. Indeed, your position on this point is difficult to reconcile with your own statement in the first page of your letter that "Freescale has *never* conditioned its production of documents upon claim charts" and has consistently asked ProMOS simply to "identify specific products or product families that it believes may infringe the Chan patents." We have now identified the specific products that ProMOS has determined may infringe the Chan patents, based on the information and discovery available to date, but Freescale is continuing to dodge its discovery obligations by continuing to insist that we provide a satisfactory explanation of how ProMOS made that determination with respect to certain Freescale product families.

Although we still see no basis for Freescale's position, we are willing to compromise to some extent, in the interest of obtaining prompt access to long-overdue responsive documents that are central to this case. Accordingly, with respect to the Coldfire 2/3 products, we are willing to accept at this stage production by Freescale of the critical technical documents relating to all products that *incorporate* the Coldfire 2/3 core processors (as opposed to documents relating to

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the Coldfire 2/3 core processors alone). We are not able to agree to any of the other limitations that Freescale has sought to impose upon our July 6, 2007 list as modified by my letter of July 12, 2007. If you genuinely believe that the inclusion on our list of particular products is the result of a typo or some other error, then feel free to bring the specific products to our attention, and we will consider whether the list requires correction. However, once we have verified that we in fact have determined that a product or product family may infringe the Chan patents (as we hereby do with respect to the products that you characterize in your letter as having "only an instruction cache"), then we will not engage in further debate or explanation about Freescale's need to produce documents relating to those products.

ProMOS has bent over backwards to attempt to find an amicable resolution of this discovery dispute. In an effort to narrow the issues in dispute, we provided you with a preliminary list of accused Freescale products based on publicly available information. Having done so, we see no basis for narrowing the list of products even further. Although your letter complains that our preliminary list of potentially accused products contains "more than 100 newly accused products," it bears mention that the products contained on our list could fairly be categorized into fewer than a dozen product families. It may be that ProMOS will expand or restrict this preliminary list following receipt of the critical documents that we are seeking in discovery. At the present time, however, we do not believe that our requests are overly burdensome or exceed the bounds of fair discovery.

Your July 16, 2007 letter also makes clear that we disagree about the types of documents that are "critical" to this case and therefore that must be produced by Freescale with respect to all accused products. Your letter of July 16th indicates that Freescale is not willing to produce RTL documentation for any of the accused products, even though your letter of July 10<sup>th</sup> admits that Freescale generates RTL documentation for its products. If, as you have represented to us repeatedly, Freescale does not have circuit diagrams for any of its products, and if it is not possible for Freescale to produce circuit diagrams, at the very least Freescale must be required to produce the RTL documentation. The other documents that you have described in your letter are not adequate substitutes for either circuit diagrams or RTL documentation.

With regard to the Rule 30(b)(6) notice of deposition, we believe the notice is clear on its face and is not overly burdensome. As we previously have indicated, this deposition is not intended as a full-fledged infringement deposition, but rather the questions will be general in nature and will be designed to provide basic information regarding the documents Freescale maintains with respect to cache memory design and the organization of those documents. In that context, the notice merely asks Freescale to provide a witness who can describe in straightforward terms the features associated with the cache memories and cache memory controllers in Freescale Products, so that we can understand what documents are available and what documents are being produced with respect to those features. Thus, it should not be difficult for Freescale to identify the necessary witness(es) for the deposition.

We first notified you of ProMOS' intent to take this deposition in an e-mail that Sten sent you two and a half weeks ago asking for available dates, and the Notice of Deposition was served on

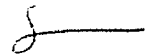
Kevin P. Ferguson  
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July 3, fully two weeks ago. Nonetheless, just yesterday, less than four days before the scheduled deposition, you first informed us that Freescale is not prepared to proceed on July 20, 2007. That is not acceptable. In light of your delay in notifying us of the apparent scheduling conflict and the impending August 15, 2007 deadline for production of documents, we must insist that you notify us by the close of business tomorrow of all dates on which Freescale is available to proceed with the deposition between now and July 31, 2007. Until we have a firm date for conducting the deposition on or before July 31, we will not agree to reschedule the deposition that is now set for July 20.

If you are willing to agree to (i) produce critical documents (including meaningful circuit diagrams, if available, and/or RTL documentation) relating to all of the products identified on our July 6, 2007 list, as corrected in my July 12, 2007 letter; and (ii) produce a Rule 30(b)(6) witness between now and July 31, 2007, please notify us in writing at your earliest convenience so that we can proceed with the necessary discovery. Otherwise, it would seem that our numerous attempts to resolve this dispute without court intervention will have been unsuccessful.

Please let Sten Jensen or me know if you would like to discuss these issues further.

Sincerely yours,



Susan Cook

## JONES DAY

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July 18, 2007

### VIA EMAIL

Susan Cook, Esq.  
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smcook@hhlaw.com

Re: ProMOS Technologies v. Freescale Semiconductor, Inc.

Dear Susan:

In Kevin's absence, this will respond to your letter to him of July 17. While we disagree with many of your comments, I nevertheless will focus on the substantive issues raised, and remain hopeful that the parties can come to an agreement.

Preliminarily, there still appears to be one philosophical difference between the parties. In general, Freescale agrees to producing the critical documents that pertain to the identification of accused products that ProMOS provided shortly before filing its motion to compel. The parties seem to disagree, however, as a caveat to that general understanding, whether Freescale must produce, without further explanation from ProMOS, critical documents for a product even where Freescale sees no apparent reason for the allegation of infringement (and indeed where it affirmatively explains why it does *not* think an infringement allegation would be reasonable). We understand ProMOS to be saying that its bare allegation of infringement is enough and that it should not have to provide further explanation, even under that circumstance. (Of course, a discovery request must bear some reasonable relationship to the patent claims; for example, the owner of a patent on an automobile engine part cannot legitimately request discovery on an automobile door, even if the owner baldly accuses that door of infringement.) For its part, Freescale has simply asked that ProMOS provide such an explanation so that Freescale need not produce documents for products that could not possibly infringe, which would be costly (in time and money) and would require unnecessary production of proprietary information, something I assume we both can agree should be avoided.

We offer a compromise as follows. Where Freescale has explained its concerns that ProMOS has identified a product family that could not possibly infringe, and ProMOS nonetheless wishes to have discovery of that product family, Freescale will produce critical

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documents for a representative product in that family (chosen by you or Freescale, as you prefer). ProMOS could then look at those critical documents, and if it wished further discovery, it could respond with an explanation of its infringement position or any other good faith basis for seeking additional discovery. Freescale would then proceed to produce the critical documents for the other accused products in that product family.

In particular with regard to the Coldfire 2/3 processor products, given that Freescale has explained its concerns regarding how a product that does not include any type of cache could infringe the Chan patents, in an offer of compromise as outlined above, Freescale will agree to produce critical documents relating to a representative Coldfire 2/3 processor core and a representative part that incorporates a Coldfire 2/3 processor core. If after reviewing the critical documents, ProMOS believes that discovery of additional products is needed and can articulate a good faith basis for requesting the additional discovery, Freescale will provide additional discovery. Freescale, however, reserves its right to seek recovery pursuant to Rule 11 (or any other applicable basis) for the needless expenses and attorneys fees expended in complying with any ProMOS's production request that is found to be frivolous.

Regarding ProMOS's request for discovery of products having an i-cache only, again, given that Freescale has explained its concerns regarding how a product that does not include a cache, as the term would be understood by a person of ordinary skill in the art, could infringe the Chan patents, Freescale will agree to produce critical documents relating to a representative processor product that only includes an i-cache. If after reviewing the critical documents, ProMOS believes that additional discovery is needed and can articulate a good faith basis for requesting the additional discovery, Freescale will provide additional discovery. Again, Freescale reserves the right to seek recovery for the expenses and attorneys fees expended in complying with ProMOS's production requests that are found to be frivolous.

Regarding the type of documentation Freescale is willing to produce, Freescale already stated that it will produce critical documents comprising (i) publicly available product manuals and (ii) proprietary Freescale circuit/subsystem workbooks/manuals. We understand the proprietary Freescale circuit/subsystem workbooks/manuals to contain circuit diagrams for the relevant circuits and, therefore, should be sufficient for ProMOS to make an infringement or non-infringement determination. If, however, after reviewing these critical documents, ProMOS believes that RTL code for specific products is needed, Freescale will make RTL code available.

I suggest that the parties meet and confer regarding the proposals set forth above. We are available tomorrow morning between 9-10 AM EST and Friday morning between 9-10 AM EST to discuss these proposals. Please let us know which of these times is more convenient for a discussion.

Now turning to ProMOS's rule 30(b)(6) deposition notice, your letter asserts that the notice is clear on its face and not overly burdensome and that it is "general in nature." You say

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you are looking for “a witness who can describe in straightforward terms the features associated with the cache memories and cache memory controllers in Freescale Products, so that [you] can understand what documents are available and what documents are being produced with respect to those features.” This description of what you are looking for only confirms our concerns. Testimony about the vague technical topic of (unspecified) “features” and about all the related documents leaves the door wide open on the nature of the questions you wish to pursue and the scope of the deposition. At the same time, you are still seeking testimony about all “Freescale Products,” defined by ProMOS as any product of Freescale that involves a cache memory in any way, without regard to what the Chan patents actually cover. There is no reasonable way that ProMOS can possibly say that Chan covers all uses of a cache memory. Saying that the questioning will be “general” does not help to address either the over breadth or lack of particularity of the notice.

ProMOS’s pending motion to compel will clearly impact on the scope of this notice and the judge’s ruling will likely give the parties considerable guidance on this issue. We suggest, therefore, that the parties agree to meet and confer on the notice once we have the judge’s ruling (or the parties agree to a resolution of the motion).

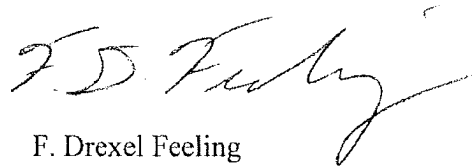
Finally, your letter complains that we only notified you on July 16 that Freescale would not be producing any witnesses in response to your deposition noticed for July 20. Surely it was clear from our first discussion of the notice that we could not and would not produce witnesses in view of the lack of particularity and over breadth of the notice. We made clear that the parties needed to work out the threshold issue of a proper scope for the notice before a deposition could proceed. Freescale could hardly even begin to identify and prepare witnesses when the scope of the notice was so up in the air. (The fact that you told us, before actually serving the notice, that you would be noticing the deposition, is irrelevant because we needed to see the actual topics to be able to evaluate the notice.) We do not agree to your demand that Freescale provide deposition dates between now and July 31, 2007. That does not make sense and indeed would not be feasible, given the pending motion to compel and the difficulties with the scope and lack of particularity of ProMOS’s notice.

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We are happy to discuss the notice with you again, particularly when we can take into account guidance from the Court. Then, if we cannot work things out, we will be prepared to file a motion for a protective order in time to be heard at Judge Farnan's next applicable motion day.

Very truly yours,

A handwritten signature in cursive script, appearing to read "F.D. Feeling". The signature is written in dark ink and is positioned above the printed name.

F. Drexel Feeling



# HOGAN & HARTSON

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August 3, 2007

## BY ELECTRONIC MAIL AND OVERNIGHT MAIL

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**RE: ProMOS Technologies, Inc. v. Freescale Semiconductor Inc. (D. Del. C.A. No. 06-7888)**

Dear Kevin and Drexel:

Earlier this afternoon you were served with a Second Notice of Deposition setting the Rule 30(b)(6) deposition for August 15, 2007 at the offices of Ashby & Geddes in Wilmington, Delaware. The topics set out in the Second Notice of Deposition are the same as those included in the first Notice of Deposition served on Freescale on July 3, 2007, which set the deposition for July 20, 2007. Freescale failed to comply with that first Notice of Deposition, notwithstanding the stated willingness of ProMOS to accommodate a request by Freescale to reschedule the deposition at a time and place convenient to Freescale during the month of July 2007. As a result of Freescale's ongoing failure to comply with its discovery obligations, and in light of your e-mail of this morning accusing us of misconduct while blithely asserting that you were still "working on establishing a 30(b)(6) deposition date" (a full month after we served the first notice), ProMOS will insist on strict compliance with the Second Notice of Deposition. Please provide us by August 9, 2007 with the names and titles of the individuals who will testify about each of the subject matters listed in the Notice of Deposition.

We also continue to find unacceptable Freescale's conduct relating to the production of technical documents. As you know, the sole basis upon which ProMOS agreed to withdraw its motion to compel on July 23, 2007 was your express representations during our July 20, 2007 conference call that Freescale would produce the requested critical technical documents (including RTL

Kevin P. Ferguson  
 August 3, 2007  
 Page 2

code) by August 3, 2007, and if there were any documents that could not be produced by August 3<sup>rd</sup> they would be produced by August 10, 2007. This understanding about the timing of production was confirmed in Sten Jensen's letter of July 30, 2007 – a statement which Freescale has failed to refute, either in writing or during any discovery conference. Until your e-mail of last evening, you never gave any indication that Freescale intended not even to begin producing RTL documents until after all of the other critical documents had been produced. As was apparent from our discussion on our July 20 conference call, had you admitted to such an intention during that call, we would not have agreed to withdraw the motion to compel production of technical documents that was pending at that time.

We therefore were surprised and angered to hear from you late last night that the documents you promised to produce by today (which we have yet to receive) would not include any RTL documents and, moreover, would be limited solely to documents relating to Freescale's Coldfire processors – only one of the more than twenty families of products on which Drexel said we would receive documents, and the one product family as to which Freescale has argued that some or all of the processors should not even be accused products. We were even more upset to learn from your e-mail of last night that Freescale intends to withhold from its production all RTL documents for all of its products until after it has completed the remainder of its technical document production at some unspecified date. This position is particularly indefensible because we have repeatedly informed you that the RTL documentation is extremely important to our analysis of this case, while the user manuals and workbooks that you have been producing to date are plainly inadequate to that end. Indeed, our motion to compel pointed out that, "to the extent that Freescale does not maintain any circuit diagrams in hard copy or electronic form, ProMOS anticipates that it may become necessary for Freescale to provide ProMOS with access to Freescale's computer systems so that ProMOS's experts and counsel may review and copy the design information that is provided to and stored in the machines." Had we known that following our discussion on July 20, 2007 you would switch tracks and refuse to produce any RTL documentation until some unspecified time after August 10, 2007, we would have kept our motion to compel on the argument calendar for presentation to the Court today.

Accordingly, we insist that you commence producing RTL documentation for all identified products immediately, and that you complete production of all technical documents (including RTL code) for all such products by the close of business on August 10, 2007, as promised during the July 20, 2007 call. Your production must include RTL documentation in an electronic form that allows for its use to generate meaningful schematics. At the very least, we expect to receive for each product by August 10<sup>th</sup> the RTL documentation covering the following by that date:

- (i) the cache memory;
- (ii) the cache controller;
- (iii) the Input/Output ("I/O");
- (iv) the register holding data going into and from the cache block;
- (v) the control circuits for the path of data from/to the main memory or I/O to/from the cache;
- (vi) the control circuits for the path of data from/to the cache to/from the CPU; and

Kevin P. Ferguson  
August 3, 2007  
Page 3

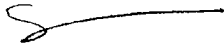
- (vii) the control circuits for the path of data from/to the main memory to/from the CPU,

with the understanding that Freescale will agree to produce the RTL code for the entire chip should we decide it to be desirable or necessary in the future.

Finally, as set forth more fully in Sten Jensen's letter of July 30, 2007, Freescale has yet to produce in this lawsuit any documents responsive to Document Request Nos. 88-109 and 117, which seek basic information necessary for ProMOS to conduct its damages analysis, including but not limited to sales data, profit data, cost data, price lists, documents identifying and providing information about Freescale's distributors, retailers, and customers, and the other topics listed in Sten's letter. We must insist that these documents be produced immediately.

We look forward to your prompt response.

Sincerely yours,



Susan Cook

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	C.A. No. 06-788-JJF
	)	
v.	)	
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**SECOND NOTICE OF DEPOSITION PURSUANT TO RULE 30(b)(6)**

PLEASE TAKE NOTICE that Plaintiff ProMOS Technologies, Inc., will take the deposition of Defendant Freescale Semiconductor, Inc. ("Freescale"), pursuant to Fed. R. Civ. P. 30(b)(6), on the topics set forth herein, beginning at 9:00 a.m. on August 15, 2007, at the offices of Ashby & Geddes, 500 Delaware Avenue, 8th Floor, Wilmington, DE 19899. The deposition will be recorded stenographically and by videotape.

The information set forth below is identical to that provided to Freescale in the Notice of Deposition served on Freescale on July 3, 2007 for a deposition scheduled July 20, 2008. Freescale failed to comply with that first Notice of Deposition, notwithstanding the stated willingness of ProMOS Technology Inc. ("ProMOS") to accommodate any request to reschedule the deposition at a time and place convenient to Freescale any time in the month of July 2007. As a result of Freescale's ongoing failure to comply with its discovery obligations, ProMOS will insist on strict compliance with this Notice of Deposition and with the Federal Rules of Civil Procedure.

Pursuant to Rule 30(b)(6) of the Federal Rules of Civil Procedure, Freescale shall designate one or more officers, directors, managing agents, or other individuals to testify on its behalf as to matters known or reasonably known to Freescale regarding the topics set forth below.

If more than one person is so designated, Freescale shall set forth in advance of the deposition the topic(s) or area(s) on which each designee will provide testimony.

**Definitions And Instructions**

1. The term "Freescale" shall mean Freescale Semiconductor, Inc., and any parent, subsidiaries, divisions, affiliates, and/or branches of the foregoing entities, any wholly or partly owned entities of the foregoing, any and all predecessors and successors thereof, and any entities acting or purporting to act for or on behalf of, or who are subject to the direction or control of, any of the foregoing entities, including agents, employees, officers, directors, attorneys, consultants, contractors, subcontractors and representatives.

2. The term "document" will have the same meaning as that term is given in the "Definitions" section of ProMOS Technology Inc.'s First Request for Production of Documents served April 12, 2007.

3. The term Freescale Product(s) will have the same meaning as that term is given in the "Definitions" section of ProMOS Technology Inc.'s First Request for Production of Documents served April 12, 2007.

**Topics For Examination At Deposition**

1. Documents maintained by Freescale that evidence the design and/or features of cache memories contained in Freescale Products.

2. Documents maintained by Freescale that evidence how cache memories are accessed in and/or used in Freescale Products.

3. Documents maintained by Freescale that evidence the design and/or features of cache memory controllers contained in Freescale Products.

4. Features associated with cache memories contained in Freescale Products.

5. Features associated with cache memory controllers contained in Freescale Products.

6. Any website maintained by Freescale and any information set forth therein that discloses features associated with cache memories or cache memory controllers contained in Freescale Products.

ASHBY & GEDDES

*/s/ John G. Day*

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John G. Day (I.D. #2403)  
Lauren E. Maguire (I.D. #4261)  
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[sajensen@hhlaw.com](mailto:sajensen@hhlaw.com)

Dated: August 3, 2007  
182871.1

**CERTIFICATE OF SERVICE**

I hereby certify that on the 3<sup>rd</sup> day of August, 2007, the attached **SECOND NOTICE OF DEPOSITION PURSUANT TO RULE 30(b)(6)** was served upon the below-named counsel of record at the address and in the manner indicated:

Mary B. Graham, Esquire  
Morris, Nichols, Arsht & Tunnell LLP  
1201 N. Market Street  
P.O. Box 1347  
Wilmington, DE 19899-1347

VIA ELECTRONIC MAIL

Stacey L. Garrett, Esquire  
Jones Day  
2727 North Harwood Street  
Dallas, TX 75201-1515

VIA ELECTRONIC MAIL

Kevin P. Ferguson, Esquire  
Jones Day  
77 West Wacker  
Chicago, IL 60601-1692

VIA ELECTRONIC MAIL  
and FEDERAL EXPRESS

F. Drexel Feeling, Esquire  
Jones Day  
North Point  
901 Lakeside Avenue  
Cleveland, OH 44114-1190

VIA ELECTRONIC MAIL

Clyde M. Siebman, Esquire  
Siebman, Reynolds, Burg & Phillips, LLP  
Federal Courthouse Square  
300 North Travis Street  
Sherman, TX 75090

VIA ELECTRONIC MAIL

*/s/ John G. Day*

\_\_\_\_\_  
John G. Day

177267.1

**A0210**



JONES DAY

NORTH POINT • 901 LAKESIDE AVENUE • CLEVELAND, OHIO 44114-1190

TELEPHONE: (216) 586-3939 • FACSIMILE: (216) 579-0212

Direct Number: (216) 586-7199  
f.dfeeling@jonesday.com

JP618219  
878247-615013

August 7, 2007

VIA EMAIL

Susan Cook, Esq.  
Hogan & Hartson LLP  
555 Thirteenth Street, NW  
Washington, DC 20004  
smcook@hhlaw.com

Re: ProMOS Technologies v. Freescale Semiconductor, Inc.

Dear Susan:

This will respond to your letter of August 3 and to ProMOS's second notice of deposition. Again, we disagree with ProMOS's characterization and distortion of the circumstances and the revisionist history recited in ProMOS's correspondence.

Regarding the second notice of deposition, in view of our July 20 and July 26 meet-and-confer teleconferences, we are at a loss to understand why ProMOS would unilaterally break its agreement to limit the product scope of the deposition to the products identified in Exhibit E to ProMOS' motion to compel and to limit the deposition topic scope to topics 1-3 of the deposition notice as they relate to the types of documents generated by Freescale ("the agreed-to deposition scope"). Pursuant to this agreement, Freescale identified witnesses who could, at this time and in Austin, Texas, testify regarding the agreed-to deposition scope and not to the expanded scope sought through your second deposition notice.

Freescale is prepared to produce witnesses to testify on August 15 regarding the agreed-to deposition scope in Austin, Texas, which is where Freescale's facility and witnesses are located. Freescale, as defendant in this case, has no obligation to bring its witnesses to Wilmington, Delaware, but in any event, in this instance, Austin is the location that makes the most sense. In view of the stance that ProMOS has apparently taken, one might question whether ProMOS truly wants the deposition to take place or whether it merely wants to force a confrontation with Freescale in front of the Judge. In any event, please advise regarding whether ProMOS wants to go forward in Austin, Texas on August 15<sup>th</sup> or whether Freescale should instead release the witnesses.

Regarding the distortions contained in your August 3 letter, ever since ProMOS first served its document requests, which literally called for the production of every piece of paper

CLI-1540106

ATLANTA • BEIJING • BRUSSELS • CHICAGO • CLEVELAND • COLUMBUS • DALLAS • FRANKFURT • HONG KONG • HOUSTON  
IRVINE • LONDON • LOS ANGELES • MADRID • MILAN • MOSCOW • MUNICH • NEW DELHI • NEW YORK • PARIS • PITTSBURGH  
SAN DIEGO • SAN FRANCISCO • SHANGHAI • SILICON VALLEY • SINGAPORE • SYDNEY • TAIPEI • TOKYO • WASHINGTON

A0211

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August 7, 2007

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that was ever generated for practically every product Freescale has sold since 2000, Freescale has attempted to discuss in good faith a way to narrow the scope of the requested documents to a reasonable set of critical documents and to narrow the list of accused products to something that was in some way related to the claims of the patents-in-suit. For months Freescale requested that ProMOS either provide criteria reasonably related to the claims of the patents-in-suit, which Freescale could then use to identify properly accused products, or specifically identify the accused products. Regarding the product families that were specifically accused in ProMOS's interrogatory responses, Freescale notified ProMOS that the production of critical documents related to those products would be completed by July 10, even though the agreed-to-scheduling order provided until August 15, 2007, to complete production.<sup>1</sup>

ProMOS, for the first time on July 6, identified 95 newly accused products, and is now complaining that critical documents for those newly accused products were not produced in less than a month. Freescale is working hard at producing critical documents in a timely manner. But, ProMOS could have averted this situation and received the critical documents earlier if it had not delayed more than 2 months in identifying the accused products. Thus, any alleged harm to ProMOS from the alleged discovery deficiencies was self-inflicted.

The circumstances surrounding the filing of the motion to compel are quite questionable. During a July 5 meet-and-confer session, Freescale informed ProMOS that critical documents would be produced on July 6, earlier than the July 10<sup>th</sup> date previously promised. During that call Freescale also made arrangements with ProMOS for a Saturday morning delivery of the documents. At no time did ProMOS mention or give any hint that this arrangement was unsatisfactory or that ProMOS was preparing a motion to compel. It was not until July 6, the date the critical documents were actually sent to ProMOS, that ProMOS identified additional products that it was accusing of infringement. A couple of hours after emailing its list of additionally accused products, ProMOS then filed its motion to compel the production of documents that were already in transit to ProMOS and the production of documents relating to 95 additional products that ProMOS identified for the first time merely hours earlier.

A few days earlier, on July 3, ProMOS served its first 30(b)(6) deposition notice for a July 20, 2007, deposition. Because the scope of topics covered by the deposition notice was as broad as the original scope of the document requests, Freescale attempted on numerous occasions to get ProMOS to define the topic scopes more clearly so Freescale could begin to identify potential witnesses. Because ProMOS refused Freescale's requests for a clearer definition, Freescale had no choice but to inform ProMOS that witnesses could not be identified for a July 20, 2007 deposition. It was not until July 20, 2007, did ProMOS even entertain the idea of providing a clearer definition.

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<sup>1</sup> Furthermore, as Freescale has promised on multiple occasions, Freescale will not use the August 15 deadline as an excuse to refrain from producing responsive documents to which ProMOS is otherwise entitled.

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August 7, 2007

Page 3

As you should recall, during the meet-and-confer teleconference on July 20, the parties discussed both the pending motion to compel and the 30(b)(6) notice. Regarding the motion to compel, the parties agreed that Freescale had completed its production of critical documents relating to the earlier identified products and that Freescale would produce similar critical documents relating to the newly identified documents and not the RTL code. ProMOS wanted to know when the production of documents for the newly identified products would be completed. Freescale informed ProMOS that its goal was to produce substantially all of the documents on August 3 and the remaining documents on August 10, but that Freescale could not guarantee that it could produce the critical documents on those dates. ProMOS expressed outrage over the fact that it wasn't provided a guaranteed delivery date for the documents, agreed nonetheless to withdraw its motion to compel, and requested that Freescale update ProMOS on the production status on the following Thursday.

Regarding the 30(b)(6) notice, the parties agreed during the call that the product scope would be limited to the products identified in Exhibit E to ProMOS' motion to compel and that the deposition would be limited to the identification of the types of documents generated by Freescale related to deposition topics 1-3. Freescale cautioned that such a deposition would require multiple Freescale witnesses and given summer vacations, it would be difficult to schedule a deposition in the near term. ProMOS stated that it believed that one or two witnesses at the most would be required and that those witnesses could be educated regarding the topics. Freescale stated that it would try to identify witnesses and a deposition date based on those parameters. Again, ProMOS asked that it be updated on the following Thursday regarding the status of deposition scheduling.

During the call, ProMOS also inquired regarding the production of RTL code. Freescale informed ProMOS that the critical documents should be sufficient to prove infringement or non-infringement but that Freescale would nevertheless produce the RTL code pursuant to the terms of the protective order after ProMOS has had a chance to review the critical documents and determined in good faith that RTL code was needed for certain products. ProMOS stated that it preferred to get the RTL code without first reviewing the critical documents. The parties agreed that the RTL code made available for inspection would be limited to the cache related RTL code and not the RTL code for the entire chip. Freescale clearly stated that after the production of the critical documents were completed, RTL code could be made available.

On a call with Susan Cook on Thursday, July 26, Freescale informed Ms. Cook that its original document production goal was too ambitious. Freescale advised that it was now aiming to produce about half of the critical documents on August 3 and half on August 10, but that it couldn't guarantee that the adjusted goal could be met. Freescale also informed Ms. Cook that it was attempting to make witnesses available by August 15 for a 30(b)(6) deposition in accordance with the agreed-to deposition scope. Ms. Cook expressed her anger and began making

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JONES DAY

August 7, 2007

Page 4

unfounded accusations. Not wanting the call to degenerate into a shouting match with Ms. Cook, Freescale ended the call.

On August 3, Freescale notified ProMOS that documents were being produced and that more would be produced on Aug 10. Later that day, Freescale notified ProMOS that it could make witnesses available in Austin, Texas for an August 15 deposition covering the agreed-to deposition scope. In response, we received your August 3 letter and a 30(b)(6) notice, which takes us to where we are today.

In addition, ProMOS's letter to Judge Farnan was unnecessary and completely distorts the circumstances. Completely lacking from your letter to Judge Farnan are the facts that (a) out of the twenty processor cores accused of infringement by ProMOS, critical technical documents for eight of those cores had been produced by July 6; and (b) the remaining twelve cores were first accused by ProMOS on July 6. Moreover, contrary to your inaccurate representations to Judge Farnan, out of the twelve processor cores newly accused on July 6, critical technical documents for four of those cores (one third), and not one, were produced on August 3. Freescale, in fact, completed its production of critical documents for half of the 95 newly accused products on August 3--critical documents for 15 of these products had been produced on July 6, critical documents for 32 of these products were produced on August 3, and three products were withdrawn from consideration since they lacked a cache of any sort. Regarding RTL code, Freescale stated in no uncertain terms during the July 20 meet-and-confer that RTL code would not be made available until after completion of the production of the critical technical documents. ProMOS agreed to withdraw its meritless motion to compel with full knowledge of this condition.

We are troubled that Ms. Cook has chosen to adopt as a code of conduct the practice of misrepresenting conversations between the parties. We are doubly troubled that you have now resorted to misrepresenting the parties' conversations to Judge Farnan. If this conduct does not cease immediately, we must insist that all future communications with you be in writing.

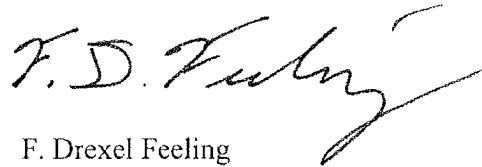
Freescale is working diligently to produce documents relating to products that ProMOS first accused of infringement on July 6 and is working diligently to make RTL code available. Freescale has offered to make witnesses available for an August 15 deposition in Austin, Texas, covering the agreed-to deposition scope. It is ProMOS and not Freescale who is disregarding the agreement reached during the July 20 meet-and-confer teleconference.

JONES DAY

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Page 5

Please let us know within the next two days if ProMOS wants to go forward with the deposition covering the agreed-to deposition scope in Austin, Texas on August 15<sup>th</sup> or whether Freescale should instead release the witnesses.

Very truly yours,

A handwritten signature in black ink, appearing to read "F.D. Feeling". The signature is fluid and cursive, with a long, sweeping tail that extends to the right.

F. Drexel Feeling

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	REDACTED
	)	PUBLIC VERSION
Plaintiff,	)	
	)	
v.	)	C.A. No. 06-788-JJF
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**PLAINTIFF PROMOS TECHNOLOGIES, INC.'S MOTION TO COMPEL  
DEFENDANT FREESCALE SEMICONDUCTOR, INC. TO PRODUCE TECHNICAL  
AND DAMAGES-RELATED DOCUMENTS RELATING TO ACCUSED PRODUCTS  
AND TO APPEAR FOR DOCUMENT-RELATED DEPOSITION**

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Dated: August 23, 2007  
183518.1

Pursuant to Rules 30, 34 and 37 of the Federal Rules of Civil Procedure and Local Rule 37.1, Plaintiff ProMOS Technologies, Inc. ("ProMOS") respectfully moves the Court for an order compelling defendant Freescale Semiconductor, Inc. ("Freescale") to (i) produce circuit diagrams, layout diagrams, schematics, RTL documentation and/or other documents showing the design and layout of each of the products accused of infringement, as well as long overdue damages-related documents; and (ii) appear for a Rule 30(b)(6) deposition in Delaware first noticed by ProMOS on July 3, 2007 for the purpose of obtaining basic information about the types of technical documents maintained by Freescale relating to the accused products.

Notwithstanding the August 15, 2007 close of document discovery and the recent representation of Freescale's counsel that Freescale has completed production of all "critical" technical documents for all accused products, Freescale has failed to produce any technical documents showing in detail the design and layout of the accused products, including but not limited to circuit diagrams, 1/ schematics, or RTL documentation, 2/ as well as a number of critical damages-related documents. Moreover, although Freescale has agreed to make RTL documentation available to ProMOS, it has taken the position that it will do so only pursuant to the draconian restrictions (*i.e.*, ProMOS will have access to the materials only on a single off-line

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1/ A circuit diagram is a drawing that uses standardized symbols to depict the connections between components of an electrical device. They are used by companies that manufacture and sell semiconductors and similar devices, and tend to be lengthy documents in light of the amount of circuitry in an integrated circuit. For example, in a proceeding filed by Freescale against ProMOS in the Eastern District of Texas, many of the circuit diagrams produced by ProMOS are approximately 200 pages each. Even when semiconductor manufacturers do not maintain hard copies of circuit diagrams of some or all of their products, they either maintain electronic versions of such diagrams or electronic records (such as RTL documentation, discussed below) that allows them to generate circuit diagrams that depict the connections between components within a chip.

2/ RTL documentation is a human-readable text format of the circuit schematic which describes the structure of a circuit and the timing of interactions between elements with the circuit. With access to the proper software, a person skilled in the art can instruct a computer to perform functions on the RTL documentation such as printing or generating illustrations or representations of the circuit such as circuit diagrams.



computer at Jones Day's Cleveland office and will not be able to make electronic copies) of Paragraph 4 of the Protective Order, which by definition apply only to "computer code" and therefore have no relevance here. In addition, Freescale has stonewalled ProMOS's attempts to uncover evidence supporting ProMOS's position that Freescale has failed to meet its discovery obligations with respect to the production of technical documents. Specifically, Freescale has twice refused to appear for a Rule 30(b)(6) deposition in Delaware first noticed by ProMOS on July 3, 2007 for the purpose of exploring the types of technical documents maintained by Freescale for the accused products. By dragging its feet in scheduling the deposition over the course of the past two and a half months, Freescale has managed to avoid appearing for the deposition at any time during the document discovery period. Enough is enough. Absent Court intervention requiring Freescale to comply with its most basic discovery obligations, including appearing for a Rule 30(b)(6) document-oriented deposition and producing the long-overdue technical and damages documents, ProMOS will be prejudiced in preparing its case for trial.

### **PROCEDURAL BACKGROUND**

On December 22, 2006, ProMOS filed this action against Freescale, a manufacturer of semiconductors, alleging infringement of three of ProMOS's patents: U.S. Patent No. 5,488,709 entitled "Cache Including Decoupling Register Circuits" ("the '709 patent"), U.S. Patent No. 5,732,241 entitled "Random Access Cache Memory Controller and System" ("the '241 patent"), and U.S. Patent No. 6,670,267 entitled "Formation of Tungsten-Based Interconnect Using Thin Physically Vapor Deposited Titanium Nitride Layer" ("the '267 patent"). Both the '709 patent and the '241 patent involve cache memory, a supplementary memory system that temporarily stores frequently-used instructions and data for quicker processing by the central processor of a computer (the '709 patent and the '241 patent are referred to collectively herein as the "cache memory



patents”). Specifically, the ‘709 patent is directed toward cache memory including decoupling register circuits, and the ‘241 patent is directed toward a random access cache memory controller and system. The ‘267 patent is directed toward a method for manufacturing semiconductors using titanium nitride. This motion does not present any issues relating to the ‘267 patent.

### **1. Freescale’s Deficient Document Production**

The Scheduling Order entered in this case required the parties to complete document production by August 15, 2007. With that deadline firmly in mind, ProMOS served its first set of document requests on Freescale on April 12, 2007 – over four months ago. A copy of those requests is attached hereto as Exhibit A. In relevant part, the requests seek basic technical documents necessary for ProMOS to present its infringement case at trial, including circuit diagrams (Request Nos. 46-49), drawings, schematics, and specifications (Request Nos. 27-30), reference and user manuals (Request No. 32), and manufacturing drawings (Request Nos. 33-37) of Freescale Products. ProMOS’s requests specifically defined the term “Freescale Products” to include (i) “microcontrollers, microprocessors, processors, digital signal processors, controller cores, processor cores and all other components or goods you manufacture or market for sale or sell in any way that use, incorporate, work with or rely on cache memory”; (ii) “systems, components, products and goods that use, incorporate work with or rely on microcontrollers, microprocessors, processors, digital signal processors, controller cores, processor cores or other components or goods that use, incorporate, work with or rely on cache memory”; and (iii) “integrated circuits and semiconductor products that incorporate one or more conductors that includes a layer of tungsten overlying a layer of titanium nitride, such conductors including, but

not limited to, those formed using Damascene and dual Damascene processes.” Ex. A at 5. <sup>3/</sup> The requests also sought basic damages-related documents, including documents relating to pricing, costs, profit margins, distributors, resellers, and customers. (Request Nos. 93, 97, 98, 101, 102, and 103).

Freescall served its responses to ProMOS’s document requests on May 17, 2007. A copy of Freescall’s responses is attached hereto as Exhibit B. Freescall objected to the vast majority of the requests by stating:

Freescall objects to this document request as premature because ProMOS has not provided Freescall with sufficient information concerning its allegations (*e.g.*, the identity of the accused Freescall products *and an explanation of ProMOS’s infringement contentions*) to permit Freescall to respond with information regarding relevant Freescall products.

Id. (emphasis added). With regard to ProMOS’s request for circuit diagrams, Freescall asserted objections but agreed to produce non-privileged responsive documents. Id. (Responses to Request Nos. 46-49). In response to other requests for technical documents, Freescall asserted a number of objections and stated that “Freescall will supplement its response within a reasonable time frame upon receiving sufficient information from ProMOS regarding its allegations to allow Freescall to respond with information regarding relevant Freescall products.” Id. (Responses to Request Nos. 27-30).

Notwithstanding Freescall’s suggestion to the contrary, at the time Freescall responded to ProMOS’s document requests, ProMOS already had provided Freescall with detailed information regarding the accused products and its infringement allegations. As noted above, the document requests themselves define the term “Freescall Product” to mean any product that uses,

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<sup>3/</sup> The first two prongs of the definition of Freescall Products are relevant to this motion as they seek information relating to products that use cache memory – the subject matter of the ‘709 and ‘241 patents. The third prong of the definition is not relevant to this motion as it seeks information on products manufactured using the inventions claimed in the ‘267 patent.

incorporates, works with, or relies on cache memory. Ex. A at 5. It should have been fairly easy for Freescale to generate a list of specific products from this definition. Moreover, before Freescale even responded to ProMOS's document requests, ProMOS served its May 14, 2007 answers to Freescale's First Set of Interrogatories, a copy of which are attached hereto as Exhibit C. In these answers, ProMOS provided Freescale with specific information regarding its infringement allegations, including a list of exemplary accused products and detailed Powerpoint presentations reading the claims of the patents onto representative accused products. <sup>4/</sup> In addition, in an effort to narrow the issues in dispute on July 6, 2007, ProMOS went the extra step of providing Freescale with a specific list of Freescale products that appeared to meet this definition based on publicly available information. Exhibit D. Because the list merely recites those Freescale products that use, incorporate, work with, or rely on cache memory, there is no reason why Freescale could not have generated this same list on its own at any time prior to July 6, 2007.

Nonetheless, Freescale continued to drag its feet on producing documents reflecting the design or layout of the accused products. Indeed, until August 20, 2007, the only "technical" documents relating to the cache memory patents that ProMOS had received from Freescale were

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<sup>4/</sup> ProMOS's interrogatory answers stated as follows: "Freescale infringes the '709 patent through its MPC 7450 RISC microprocessor and similar processors including MPC 7448, MPC 7447A, MPC 7457, MPC 7455, MPC 7451, MPC 7450, MPC 7447, MPC 7445, MPC 7441. Other infringing processors include the e500 and e600 cores and processors and systems that include those cores as well as the products identified as the PowerQUICC II and Power QUICC III processors. The i.MX31 processor infringes the '709 patent." Ex. C (Answer to Interrogatory No. 1). With regard to the '241 patent, ProMOS asserted: "Freescale infringes the '241 patent through its i.MX31 processor, MC 68060, MC68LC060 and MC68EC60 processors, the ColdFire processors identified as the MCF548x processor, and the ColdFire V4e, V5 and V5E processors." *Id.* ProMOS also provided Freescale with detailed Powerpoint presentations showing how certain of the independent claims of the patents-in-suit read on representative Freescale products. *See* Attachments to Exhibit C. ProMOS specifically stated in its interrogatory answers that "the foregoing listing is exemplary, and ProMOS believes that other past and present Freescale products infringe [the cache memory patents-in-suit]. Additional information in that regard is in the exclusive possession of Freescale. Accordingly, ProMOS reserves the right to supplement this response as discovery progresses." Ex. C (Answer to Interrogatory No. 1).

publicly-available user manuals (available on Freescale's website)

**REDACTED**

Critically absent from Freescale's production are any circuit diagrams, layout diagrams, schematics, RTL documentation, or other detailed drawings of any of its cache memory systems.

On July 6, 2007, frustrated by months of unsuccessful discovery conferences with Freescale's counsel on this topic, ProMOS filed a motion to compel with the Court seeking to require Freescale to produce basic technical documents responsive to its discovery requests. In a letter dated July 10, 2007 and a discovery conference dated July 20, 2007, Freescale's counsel requested that ProMOS agree to withdraw the motion to compel, representing that Freescale maintains only three types of so-called "critical" technical documents relating to the accused products: (i) publicly available product manuals; (ii) purportedly confidential workbooks/manuals; and (iii) RTL documentation. As an inducement to get ProMOS to withdraw the motion to compel, Freescale's counsel also represented that Freescale would produce all three categories of these so-called "critical" technical documents for all accused products by August 3, 2007 (or, at the latest, for some accused products by August 10, 2007).

RTL documentation is a human-readable text format of the circuit schematic which describes the structure of a circuit and the timing of interactions between elements with the circuit. Exhibit E (Declaration of J. McAlexander). With access to the proper software, a person

skilled in the art can instruct a computer to perform functions on the RTL documentation such as printing or generating illustrations or representations of the circuit such as circuit diagrams. Id. Thus, if provided sufficiently meaningful RTL documentation, ProMOS expects to be able to use the RTL documentation to generate the circuit diagrams and schematics that Freescale has to date refused to produce. Based on the express representations by Freescale's counsel, and not wanting to unnecessarily involve the Court in what should have been Freescale's rote compliance with its discovery obligations, ProMOS withdrew its motion to compel on July 23, 2007.

With the threat of the motion to compel lifted, however, Freescale began to backpedal on its agreement. On August 3, 2007, Freescale's counsel notified ProMOS's counsel by e-mail that the only technical documents that would be produced on that day would be manuals and workbooks relating to one type of processor – the Coldfire processor – and that Freescale would be producing “more” technical documents on August 10, 2007. In that same communication, Freescale's counsel also notified ProMOS that Freescale intended to withhold from production all RTL documentation for all of its products until after Freescale completed the remainder of its technical document production at some unspecified date. Moreover, Freescale has taken the position that it will only make the RTL documentation available pursuant to the severely restrictive provisions of Paragraph 4 of the Protective Order. On its face, Paragraph 4 applies only to “computer code” and therefore has no applicability to RTL documentation, which merely contains information about the design of the circuit and unlike computer code, does not instruct the computer to perform any functions. Ex. E (Declaration of J. McAlexander), F (Protective Order). Pursuant to the production method insisted upon by Freescale's counsel, ProMOS's counsel would be required to view the RTL documentation only on a single computer located in Freescale's office and would not be able to make electronic copies of the RTL documentation, and therefore would

not have easy ability to generate the circuit diagrams and schematics to which ProMOS is entitled.

Ex. F ¶ 4 .

Finally, notwithstanding the August 15, 2007 close of document discovery, Freescale has yet to produce any profit information, pricing information, cost information, or information about its customers and resellers. Freescale should have produced these basic damages-related documents months ago, and in any event before the close of document discovery.

**2. Freescale's Refusal to Appear for a Properly-Noticed Rule 30(b)(6) Deposition**

On June 29, 2007, ProMOS notified Freescale by letter that it intended to issue a notice of Rule 30(b)(6) deposition for the purpose of obtaining basic information "regarding the designs and technical documentation for cache memories in Freescale products." Exhibit G. ProMOS indicated that it believed "such a deposition is necessary to ensure the completeness of Freescale's responses to outstanding discovery requests, to assist in formulating possible additional written discovery, and to respond to your request for a more complete listing of Freescale products that infringe the Chan patents." Id. In the same letter, ProMOS requested that Freescale provide it with dates upon which its witnesses were available for the deposition during the week of July 16, 2007. Id. Freescale's counsel failed to respond to (or even acknowledge) this request.

Not having heard back from Freescale's counsel, on July 3, 2007, ProMOS issued a Rule 30(b)(6) notice of deposition seeking basic information regarding the technical documents maintained by Freescale. Exhibit H. The notice referenced six basic deposition topics:

- (i) documents maintained by Freescale that evidence the design and/or features of cache memories contained in Freescale Products;
- (ii) documents maintained by Freescale that evidence how cache memories are accessed in and/or used in Freescale Products;
- (iii) documents maintained by Freescale that evidence the design and/or features of cache memory controllers contained in Freescale Products;
- (iv) features associated with cache memories contained in Freescale Products;

- (v) features associated with cache memory controllers contained in Freescale Products; and
- (vi) any website maintained by Freescale and any information set forth therein that discloses features associated with cache memories or cache memory controllers contained in Freescale Products.

Id.

In the weeks following receipt of the 30(b)(6) notice, Freescale indicated that in their view the deposition was unnecessary – since Freescale’s counsel already had stated what documents Freescale maintained – and that two of the topics were too broad. But it was not until July 16, 2007 that Freescale flatly asserted that it would not produce any witnesses at all on July 20, 2007. Even then, Freescale merely asserted that the deposition would not go forward as noticed without offering any alternative dates for the deposition. On a July 20, 2007 discovery conference, ProMOS offered to reschedule the deposition for any date in July, and even offered to take the deposition in Texas if the deposition went forward before August 1, 2007. Freescale refused to provide alternate dates anytime during the month of July, asserting that it intended to identify at least 20 different witnesses responsive to the notice because a different witness would have to speak to the documents that might exist for each of the more than 20 different product families.

Finally, on August 3, 2007, after much prompting from ProMOS, Freescale provided ProMOS with a single proposed deposition date for the deposition: August 15, the last day of document discovery and over six weeks after ProMOS's original notice of what was supposed to be a simple document deposition. Exhibit I. However, Freescale proposed that the deposition go forward in Austin, Texas, because that would be most convenient for the single witness (or possibly two witnesses) that it intended to offer (reduced without explanation from the 20 witnesses that Freescale’s counsel previously had said would be necessary). Id. That same day, ProMOS served Freescale with a Second Notice of Rule 30(b)(6) Deposition containing topics that were identical to those set forth in the July 3, 2007 notice of deposition. Exhibit J. Given that

Freescall had previously rejected ProMOS's offer to take the deposition in Texas so long as it took place sometime during the month of July, ProMOS used the default mechanism of noticing the deposition for Delaware, the jurisdiction in which Freescall had voluntarily filed its counterclaims.

Freescall refused to appear for the deposition, however, stating that it would not make its witness available in Delaware and instead insisting that the deposition proceed in Austin, Texas. On August 13, 2007, Freescall went a step further and insisted that the deposition not only take place in Austin, but moreover that it be scheduled for some time in mid-September – two and a half months after the initial deposition notice was served – so that it could coincide with an as-yet unscheduled mediation session between the parties in Plano, Texas – more than 200 miles from Austin. Exhibit K. When ProMOS pointed out to Freescall that this proposal made no sense, Freescall then asserted that a mid-September deposition was necessary because the single witness that it intended to offer would be on vacation until that time. In sum, Freescall has used a constantly-shifting series of rationales for avoiding the deposition – the breadth of the topics, the number of deponents that would be required, the location, and now the timing of the deposition – to avoid producing a witness in response to the July 3, 2007 or the August 3, 2007 notices of deposition anytime during the document discovery period.

ProMOS has bent over backwards to avoid involving the Court in this dispute. The parties held telephone conferences relating to these issues on May 23, 2007, June 28, 2007, July 5, 2007, July 20, 2007, July 26, 2007, August 8, 2007, and August 17, 2007. ProMOS also wrote letters to Freescall's counsel regarding these disputes on May 18, 2007, June 25, 2007, June 29, 2007, July 12, 2007, July 30, 2007, August 9, 2007, August 13, 2007, and August 20, 2007. ProMOS even went so far as to withdraw its previously-filed motion to compel based on representations made by



Freescale's counsel on a conference call on July 20, 2007 regarding a timeline for production of some of the documents sought in this motion -- representations that Freescale failed to live up to. Notwithstanding having spent a great deal of time seeking an amicable resolution of this issue, ProMOS has been unable to secure Freescale's compliance with the notice of deposition or to induce Freescale to produce circuit diagrams, schematics or other meaningful technical documents. Because Freescale will have to produce these documents eventually, the apparent motive for Freescale's refusal to produce them is that Freescale is hoping to delay discovery in this proceeding to ensure that the Texas case proceeds as far in advance of this case as possible.

#### ARGUMENT

The Federal Rules of Civil Procedure provide for "a broad scope of discovery." Novartis Pharmaceuticals Corp. v. Eon Labs Mfg., Inc., 206 F.R.D. 392, 394 (D. Del. 2002); accord Block Drug Co., Inc. v. Sedona Labs., Inc., No. Civ. A. 06-350, 2007 WL 1183828, \*1 (D. Del. Apr. 19, 2007) ("discovery is to be liberally allowed"); Corning Inc. v. SRU Biosystems, LLC, 223 F.R.D. 191, 193 (D. Del. 2004) ("it is well recognized that the federal rules allow broad and liberal discovery") (granting motion to compel); Advanced Med. Optics, Inc. v. Alcon Inc., No. Civ. A. 03-1095-KAJ, 2004 WL 1877724, \*2 (D. Del. Aug. 18, 2004) ("The broad scope of discovery under the Federal Rules of Civil Procedures is well-known.") (granting motion to compel discovery into sales of non-accused products). Thus, "[p]arties may obtain discovery regarding any matter, not privileged, that is relevant to the claim or defense of any party." F.R.C.P. 26(b)(1). Relevance "has been construed broadly to encompass any matter that bears on, or that reasonably could lead to other matter[s] that could bear on, any issue that is or may be in the case." Pitney Bowes, Inc. v. Kern Int'l, Inc., 239 F.R.D. 62, 65 (D. Conn. 2006). The party receiving a request

must not only produce information that is admissible as evidence, but also information which “appears reasonably calculated to lead to the discovery of admissible evidence.” *Id.*; see also Advanced Med. Optics, Inc. 2004 WL 1877724 at \*2 (“Relevant information need not be admissible at the trial if the discovery appears reasonably calculated to lead to the discovery of admissible evidence.”). “‘Reasonably calculated’ in Rule 26 means ‘any possibility that the information sought may be relevant to the subject matter of the action.’” Pitney Bowes, Inc. v. Kern Int’l, Inc., 239 F.R.D. 62, 65 (D. Conn. 2006).

Moreover, “[i]n patent cases there is a substantial policy for a ‘broad type of discovery and duty of full disclosure’ in order to reduce the ‘maximum amount of evidence.’” Ropak Corp. v. Plastikan, Inc., No. 04 C 5422, 2006 WL 1005406 (N.D. Ill. Apr. 17, 2006). Thus, a party cannot simply refuse to produce discovery because it believes that the documents already produced – in this case publicly-available users manuals produced to date by Freescale – may be sufficient to explain the accused products at a general level, especially when other documents in the party’s possession – circuit diagrams and RTL documentation – would allow for more efficient and definitive proof of infringement at trial.

**I. This Court Should Compel Freescale to Produce Technical Documents Relating to the Accused Products - Including Circuit Diagrams, Schematics, and RTL Documentation – as Well as Long Overdue Damages-Related Documents.**

Freescale also should be compelled to produce basic technical documents showing the specific design and layout of the accused products, as well as profit, pricing, cost, customer and other damages-related documents. Although Freescale has asserted that as of August 20, 2007, it has completed production of the “critical technical documents,” Freescale has failed to produce any circuit diagrams, schematics, RTL documentation, or other documents that show the specific design and layout of its products. While the publicly available user manuals and the other

materials produced to date confirm ProMOS's allegations of infringement, circuit diagrams and their equivalents contain more detailed information regarding the design and layout of the accused products that will permit ProMOS to prove its infringement case at trial more efficiently and more definitively. See Pitney Bowes, 239 F.R.D. at 65 ("the technical specifications in drawings related to ... the accused devices at issue in the case [are] not only directly and highly relevant, but indeed are critical to the infringement claims asserted in the case."); Cornell Research Foundation, Inc. v. Hewlett Packard Co., 223 F.R.D. 55, 74 (N.D.N.Y. 2003) (same); see also Laitram Corp. v. NEC Corp., 62 F.3d 1388, 1395 (Fed. Cir. 1995) (holding that substantial evidence supported jury's finding of infringement where plaintiff's expert walked through comparison of patent claims to defendant's circuit diagrams).

Freescall has asserted that it does not maintain hard copies of circuit diagrams or schematics, and rather that design information relating to the accused products is stored in computer aided design ("CAD") databases at Freescall's facilities. To begin with, as set forth above, Freescall has denied ProMOS the opportunity to test this assertion at a Rule 30(b)(6) deposition. Moreover, as explained in the declarations of Freescall's own expert and outside counsel submitted in another lawsuit and attached hereto as Exhibits L and M, Freescall (like any other circuit designer) almost certainly has the capability of generating detailed circuit diagrams and schematics from such databases, and should be able to do so without undue effort or burden. Id.; see also Exhibit E. If Freescall is unwilling to generate the circuit diagrams or schematics from the electronic databases, then ProMOS should be provided access to Freescall's computer systems so that ProMOS's experts and counsel may review and copy the design information that is provided to and stored in the machines. This approach has been sanctioned by district courts under similar circumstances. See, e.g., Cornell Research Foundation, Inc. v. Hewlett Packard Co., 223

F.R.D. 55, 74-75 (N.D.N.Y. 2003) (permitting plaintiff's expert in patent infringement case relating to computer processor instruction issuing system to visit defendant's facility to review technical specifications in their electronic format because the schematics to which the plaintiff sought electronic access were "critical to the question of infringement"). Moreover, the declarations signed by Freescale's own counsel and expert witness make clear that if ProMOS's expert witnesses were permitted access to Freescale's electronic design database, they would be able to generate circuit diagrams and schematics using Freescale's existing software without undue effort or burden. Ex. L and M.

In addition, Freescale should be compelled to produce RTL documentation in a format that ProMOS can use to generate schematics and circuit diagrams. Freescale's current position is that it will only make RTL documentation available pursuant to Paragraph 4 of the Protective Order, Exhibit N, which means that ProMOS's counsel will be required to view (but not electronically copy) the documentation during business hours on a single off-line computer located in Jones Day's office. Exhibit F ¶ 4. But Paragraph 4 of the Protective Order by its very terms only applies to "source, object, machine, or other such computer code." Id. As set forth more fully in the declaration attached hereto as Exhibit E, computer code is comprised of lines of instructions; each line of which instructs the computer to perform some function. In contrast, RTL is human-readable language used to describe the structure of a circuit and the timing of interactions between elements with the circuit. A user may instruct a computer to perform functions on the RTL documentation (such as printing or generating circuit diagrams or other illustrations of the circuit), just as it may instruct a computer to add columns of numbers, but the RTL documentation of a circuit itself does not command a computer to do anything. RTL documentation just describes the circuit. Id. There is no reason, then, why ProMOS should be required to travel to Jones Day's

office in Cleveland to review the RTL documentation or for any of the other heightened protections of Paragraph 4 to apply to RTL documentation. Rather, Freescale should be compelled to produce the RTL documentation produced pursuant to the normal protections of the Protective Order. That is particularly true because, during the early stages of the parties' negotiation of an agreed protective order, ProMOS raised concerns about the burdens that might be imposed by paragraph 4. Counsel for Freescale sought to allay those concerns in part by agreeing with ProMOS that "computer code" was not likely to be a source of significant evidence in this case. Now, having failed for months to produce critical technical documents in the form that ProMOS expects they are maintained (or could be generated) at Freescale's facilities, Freescale is attempting to use the restrictions of paragraph 4 of the Protective Order to place further unnecessary burdens on ProMOS's ability to prosecute this case.

Freescale also is long overdue on producing certain basic damages-related documents, including profit information, pricing information, cost data, and information regarding Freescale's customers and resellers for the accused products. There simply is no reason why Freescale could not have produced these materials before the close of document discovery, and Freescale should be compelled to produce them immediately. On June 25, 2007 and again on July 30, 2007, ProMOS notified Freescale that it had failed to produce a large number of documents necessary for a damages analysis, including the following:

- Current and historical price lists for each Freescale Product;
- Documents reflecting costs (fixed and variable), gross profit, and net profit for each Freescale Product manufactured, sold or offered for sale from 2000 through the present, including projections through 2012;
- Summary documents categorized by year and product type and name regarding gross expenses incurred in the manufacture, distribution or sale of Freescale Products;
- Documents showing by month and calendar year for each year since 2000 the number of each model of Freescale Product manufactured, used or distributed in the United States;

- Sales, distribution or importation agreements entered into by Freescale relating to each Freescale Product;
- Documents sufficient to show Freescale's distributors, resellers and customers for each Freescale Product;
- Documents relating to purchase orders and/or specifications received from customers or potential customers for each Freescale Product, including all drawings;
- Documents relating to market shares for Freescale and its competitors for each Freescale Product;
- Documents sufficient to show the first sale of each Freescale Product;
- Summary documents identifying the distributors and retailers to whom you have sold each Freescale Product from 2000 through the present, including name, address, products sold by model number, number of units sold, date of sale, date of shipment, and sales price; and
- Drafts, proposals, and final copies of advertising, sales, or promotional literature, including those specified in Request No. 107.

On August 7, 2007, Freescale responded to ProMOS's July 30, 2007 letter by promising to produce responsive information, but as of the filing of this motion, Freescale had produced only a few pages of revenue and margin projections for specified Freescale Products. ProMOS is still waiting on price information, cost information, profit information, and the other damages-related information described above.

**II. This Court Also Should Compel Freescale – a Delaware Corporation that has Asserted Counterclaims in this Case – to Produce a Rule 30(b)(6) Witness for Deposition as Noticed to Explain the Documentation It Maintains Regarding the Accused Products**

Freescale also should be compelled to promptly produce a Rule 30(b)(6) witness in Delaware to testify about the six topics listed in ProMOS's July 3 and August 3 deposition notices. While ProMOS remains willing to work with Freescale to agree upon a mechanism for selecting the location of other depositions in this case in a manner that is fair to both parties, given Freescale's recalcitrance in connection with this particular deposition and the impact it has had upon ProMOS's ability to obtain the technical documents it needed during the document discovery

period, Freescale should be compelled to produce witnesses in Delaware in response to the Rule 30(b)(6) deposition notice that ProMOS served on July 3 and again on August 3.

Any other result would reward Freescale for its gamesmanship and stonewalling tactics, which include the following:

- ignoring a June 29 letter requesting a list of dates during the week of July 16 that Freescale could be available for a Rule 30(b)(6) document deposition;
- failing to respond to a July 3 notice of deposition to be held on July 20 for two weeks, and then on July 16 merely asserting that the deposition would not go forward as noticed but failing to offer alternative dates for the deposition;
- refusing to provide any dates for the deposition during the month of July, even though ProMOS offered to take the deposition in Texas if it could proceed before the end of the month;
- attempting to justify its unreasonably delay in responding to the notice by insisting that the deposition topics were too broad and that they would require Freescale to prepare and produce 20 witnesses from around the world because Freescale would have to produce a different witnesses to talk about the documents for each of the more than 20 different product families, and then, having achieved the desired delay, backpedaling and suggesting that all of the topics could be covered by one or perhaps two witnesses;
- refusing to appear for a deposition in Delaware – on August 15 or any other date – even though Freescale filed counterclaims in this jurisdiction;
- suggesting that it would make sense to hold the deposition in Austin, Texas in mid-September to coincide with an as-yet unscheduled mediation session which will take place in Plano, Texas, over 200 miles away from Austin; and

- most recently, insisting that the (now single) witness that it intends to offer will be on vacation until mid-September.

Moreover, this Court should require Freescale to put forward a witness promptly – within 10 days of this Court’s ruling – because Freescale has had since July 3, 2007 to prepare witness(es) to speak to the topics listed in the notice of deposition.

### **III. This Court Should Award ProMOS its Attorneys’ Fees and Costs as a Sanction for Freescale’s Dilatory Conduct**

Finally, pursuant to Rules 16(f) and 37(a)(4), ProMOS respectfully requests that the Court impose appropriate sanctions, including but not limited to costs and attorney’s fees associated with preparing this motion and conferring with Freescale in connection with the issues raised herein. Under Rule 37(a)(4), a party that unsuccessfully resists a motion to compel discovery must pay to the moving party the reasonable expenses incurred in obtaining the order, including attorney’s fees, unless the court finds that the opposition to the motion was substantially justified or that other circumstances make an award of expenses unjust. Rule 37(a)(4); see also Liafail, Inc. v. Learning 2000, Inc., 2003 WL 722199, \*7 (D. Del. March 3, 2003). There can be no “substantial justification” for Freescale’s failure to live up to its discovery obligations. While Freescale has maintained in the past that it could not have produced technical or damages-related documents regarding the accused products until ProMOS provided Freescale with the list of Freescale products containing cache memory systems on July 6, 2007, nothing could be further from the truth. In order to create that list, ProMOS simply reviewed Freescale’s website and identified all products containing cache memories that fit within the definition of “Freescale Product” set forth in ProMOS’s discovery requests. There is no reason why Freescale could not have done the same thing on its own as soon as it received ProMOS’s discovery requests in mid-April.



### CONCLUSION

For the foregoing reasons, Plaintiff ProMOS Technologies, Inc. respectfully requests that the Court GRANT its Motion to Compel Defendant Freescale Semiconductors, Inc. to Appear for Document-Related Deposition and Produce Technical and Damages-Related Documents Relating to Accused Products.

### STATEMENT PURSUANT TO LOCAL RULE 7.1.1

Pursuant to Local Rule 7.1.1, counsel for ProMOS has made a reasonable effort to reach agreement with counsel for Freescale on the matters set forth in this motion. Although the parties have worked together in good faith and have resolved a number of issues relating to alleged discovery deficiencies in the discovery responses of both sides, Freescale has failed to produce the technical documents that are the subject of this motion or to appear for the deposition as noticed.

ASHBY & GEDDES

*/s/ John G. Day*

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Dated: August 23, 2007  
183518.1

REDACTED

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC., :  
 :  
Plaintiff, :  
 :  
v. : Civil Action No. 06-788 JJF  
 :  
FREESCALE SEMICONDUCTOR, INC., :  
 :  
Defendant. :

O R D E R

Whereas, Plaintiff filed a Motion To Compel Defendant, Freescale Semiconductor, Inc. to Produce Technical and Damages Documents Relating to Accused Products and to Appear for Document-Related Deposition (D.I. 55);

Whereas, the Court has considered the positions of the parties and finds that Defendant's responses have been insufficient with regard to all issues presented by Plaintiff.

NOW THEREFORE, IT IS HEREBY ORDERED that Plaintiff's Motion To Compel (D.I. 55) is GRANTED.

IT IS FURTHER ORDERED that:

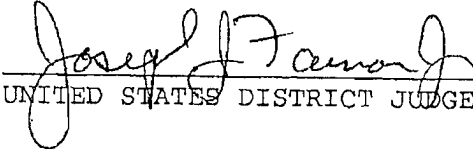
- 1) Within twenty (20) days, Defendant shall:
  - a. generate and produce the requested circuit diagrams to Plaintiff;
  - b. provide Plaintiff electronic copies of the RTL documentation. (The Court concludes that Paragraph 4 of the Protective Order does not apply to said documentation);

c. produce to Plaintiff pricing information and cost data for the accused products;

2) Defendant shall produce a Rule 30 (b)(6) Witness for Deposition as noticed by Plaintiff in the District of Delaware.

3) Decision is RESERVED on Plaintiff's request for attorneys' fees and cost pending the Court's further review of Defendant's conduct.

October 31, 2007  
DATE

  
UNITED STATES DISTRICT JUDGE

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	
_____	)	

**FREESCALE'S OBJECTIONS TO PROMOS'S  
SECOND NOTICE OF DEPOSITION PURSUANT TO RULE 30(B)(6)**

Freescall Semiconductor, Inc. ("Freescall") provides the following objections to the second notice of deposition served on Freescall by ProMOS Technologies, Inc. ("ProMOS") in the above-captioned matter, dated August 3, 2007.<sup>1</sup>

**GENERAL BACKGROUND TO OBJECTIONS**

ProMOS's First and Second Notices of Deposition were the subject of correspondence and several meet-and-confer sessions between counsel in order to resolve the objections that Freescall had to their overbreadth and lack of particularity. After several other discussion, in a July 20 meet-and-confer involving Drexel Feeling, David Witcoff and Mary Graham for Freescall and Steve Routh, Susan Cook and Sten Jensen for ProMOS, ProMOS clarified and agreed that the deposition scope: (1) would be limited to the identification of documents; (2) would not be used to address the technical details of Freescall's products, and in particular, would not be used as a back-door vehicle to address technical details at the level of the Chan patents' claims; and (3) would be limited to the types of documentation Freescall has

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<sup>1</sup> Freescall understands that the Second Notice replaced and rendered inoperative the First Notice of Deposition.

generated for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's first motion to compel. ProMOS further agreed that its deposition questions would not be directed to claim language or whether certain Freescale technology met claim limitations. After reaching that agreement on the deposition scope, ProMOS served its Second Notice of Deposition Pursuant to Rule 30(b)(6), to which these objections respond.

Freescale hereby understands the deposition topics in ProMOS's Second Notice of Deposition Pursuant to Rule 30(b)(6) to be limited to the parties' agreement as delineated above, and Freescale will object to questioning that strays outside the bounds of this agreement (or outside the topics of the Notice). As indicated during the meet-and-confer, Freescale also reserves the right to instruct its witness(es) not to answer questions outside the scope of this agreement. Finally, Freescale invited ProMOS to provide its topics in greater particularity, but it declined. Thus, Freescale will prepare its witness to testify to the below topics at a reasonable level of detail given the general level of the topics, and ProMOS should not be heard to complain if Freescale has not anticipated every question that ProMOS asserts is within the scope of the topics, regardless of its level of detail.

### **SPECIFIC OBJECTIONS**

#### **DEPOSITION TOPIC NO. 1:**

Documents maintained by Freescale that evidence the design and/or features of cache memories contained in Freescale Products.

#### **OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products identified in Exhibit E to ProMOS's first Motion to Compel. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale further

objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness(es) with knowledge regarding the types of documentation Freescale generates for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's motion to compel.

**DEPOSITION TOPIC NO. 2:**

Documents maintained by Freescale that evidence how cache memories are accessed in and/or used in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products identified in Exhibit E to ProMOS's first Motion to Compel. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness(es) with knowledge regarding the types of documentation Freescale generates for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's motion to compel.

**DEPOSITION TOPIC NO. 3:**

Documents maintained by Freescale that evidence the design and/or features of cache memory controllers contained in Freescale Products.

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**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products identified in Exhibit E to ProMOS's first Motion to Compel. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness(es) with knowledge regarding the types of documentation Freescale generates for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's motion to compel..

**DEPOSITION TOPIC NO. 4:**

Features associated with cache memories contained in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products identified in Exhibit E to ProMOS's first Motion to Compel. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale also objects to this topic to the extent it is not limited to the types of documentation Freescale generated for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's first motion to compel. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness(es) with knowledge regarding the types

of documentation Freescale generates for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's motion to compel.

**DEPOSITION TOPIC NO. 5:**

Features associated with cache memory controllers contained in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products identified in Exhibit E to ProMOS's first Motion to Compel. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale also objects to this topic to the extent it is not limited to the types of documentation Freescale generated for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's first motion to compel. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness(es) with knowledge regarding the types of documentation Freescale generates for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's motion to compel.

**DEPOSITION TOPIC NO. 6:**

Any website maintained by Freescale and any information set forth therein that discloses features associated with cache memories or cache memory controllers contained in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products identified in Exhibit E to ProMOS's first Motion to Compel. Freescale also

specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale also objects to this topic to the extent it is not limited to the types of documentation Freescale generated for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's first motion to compel. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness(es) with knowledge regarding the types of documentation Freescale generates for the cache-related sections of the Freescale products identified in Exhibit E to ProMOS's motion to compel.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

*/s/ Mary B. Graham (#2256)*

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216.586.3939

November 28, 2007  
1323754

**CERTIFICATE OF SERVICE**

I hereby certify that true and correct copies of the foregoing were caused to be served on November 28, 2007 upon the following individuals in the manner indicated:

**BY E-MAIL**

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/s/ Mary B. Graham (#2256)  
Mary B. Graham (#2256)

CONFIDENTIAL

Promos Technologies, Inc. v. Freescale Semiconductor, Inc.

Page 1

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	CONFIDENTIAL
	)	
Plaintiff,	)	
	)	Civil Action
v.	)	No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

Videotape Deposition of MICHAEL DEAN SNYDER,  
taken pursuant to notice at the law offices of Morris,  
Nichols, Arsht & Tunnell, LLP, 1201 North Market  
Street, Wilmington, Delaware, beginning at 9:35 a.m.,  
on Friday, November 30, 2007, before Terry Barbano  
Burke, RMR-CRR and Notary Public.

APPEARANCES:

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For the Defendants

ALSO PRESENT:

Carol Feeley, Video Specialist  
Discovery Video Services

WILCOX & FETZER  
1330 King Street - Wilmington, Delaware 19801  
(302) 655-0477  
www.wilfet.com

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REDACTED

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	
	)	

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**DEFENDANT FREESCALE SEMICONDUCTOR, INC.'S  
OBJECTIONS TO RULE 30(B)(6) NOTICE OF DEPOSITION**

Pursuant to Rules 26 and 30 of the Federal Rules of Civil Procedure, Defendant Freescale Semiconductor, Inc. ("Freescale") submits the following general and specific objections to ProMOS's Notice of 30(b)(6) Deposition, dated October 17, 2007 ("Notice") and the attached deposition topics set forth in Schedule A of the Notice.

**GENERAL OBJECTIONS AND STATEMENT**

1. Freescale has agreed to specific times, dates and locations for the production of witnesses in response to this Notice.
2. Freescale objects to the topics set forth in the Notice to the extent any topic seeks information that is protected from discovery by the attorney-client privilege, the work product doctrine, the joint defense privilege and/or any other applicable privilege that is otherwise immune from discovery. Nothing contained in these objections is intended to be, or in any way shall be deemed, a waiver of such an available privilege, protection or immunity.
3. Freescale objects to the topics to the extent they call for Freescale's legal conclusions, contentions and/or legal theories.

4. Freescale objects to the topics to the extent they call for information protected by confidentiality agreements with third parties.

5. Freescale objects to the Notice to the extent it seeks discovery of information that is available through other means that are less burdensome, less expensive or more appropriate than through deposition, such as through documents or written discovery. In addition, Freescale objects to the Notice to the extent the topics seek information that is unreasonably cumulative, redundant or duplicative of other discovery produced by Freescale.

6. Freescale objects to the topics to the extent they are vague and ambiguous and therefore do not describe with reasonable particularity the matters on which examination is requested. Freescale requests more particularity so that it can determine more precisely the scope of each of the topics in advance of the depositions.

7. Freescale objects to the topics to the extent they seek information not within Freescale's possession, custody or control or to the extent they seek information regarding third parties or information that is uniquely within ProMOS's control.

8. Freescale objects to each and every topic as overly broad and unduly burdensome to the extent the topics are not properly limited in time and/or scope.

#### **OBJECTIONS TO SPECIFIC TOPICS**

##### **TOPIC NO. 1:**

Freescale's policies, practices and channels of sale of the accused products, including the identity of all third parties who purchased any accused product since January 1, 2000.

##### **RESPONSE:**

Freescale specifically objects to the above topic as vague and ambiguous and lacking sufficient particularity; it is not clear what is meant by Freescale's "policies" or



“practices” as it relates to sales. Freescale further objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding the sales channels for the accused products and the identity of U.S. customers.

**TOPIC NO. 2:**

Freescale’s policies, practices and channels of distribution of the accused products, including the identity of all distributors of each accused product.

**RESPONSE:**

Freescale specifically objects to the above topic as vague and ambiguous and lacking sufficient particularity; it is not clear what is meant by Freescale’s “policies” or “practices” as it relates to distribution. Freescale further objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding the sales channels for the accused products and the identity of U.S. distributors.

**TOPIC NO. 3:**

The identity of all third parties for whom Freescale, at least partially, made, designed, fabricated, manufactured, implemented or assembled any accused product since January 1, 2000.

**RESPONSE:**

Freescale specifically objects to the above topic as vague and ambiguous and lacking particularity. Freescale understands this topic to seek information regarding the identity of customers who have purchased accused products manufactured by Freescale. Freescale further objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding the identity of U.S. customers and distributors pursuant to topics 1 and 2.

**TOPIC NO. 4:**

The location and nature of Freescale documents and databases containing sales, distribution and/or financial information about any accused product, including the terms used and information contained in such documents and databases that relate to sales, revenues, costs and/or profits, including but not limited to the identification of each “field” available in the documents and databases Freescale maintains to track sales of its products.

**RESPONSE:**

Freescale objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge concerning the financial databases used to track sales, revenues and costs.

**TOPIC NO. 5:**

The location and nature of Freescale documents and databases containing transaction-by-transaction or customer-by-customer sales information, including but not limited to the identification of each “field” available in such documents and databases.

**RESPONSE:**

Freescale objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge concerning the financial databases used to track customer sales transactions.

**TOPIC NO. 6:**

The Excel spreadsheet containing sales data that was provided by counsel for Freescale to counsel for ProMOS on June 4, 2007, and any correlations of accused products to products listed in the spreadsheet, including but not limited to the identification of any part number decoder or other mechanism that identifies or explains such correlations.

**RESPONSE:**

Freescale objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding the data contained in the Excel spreadsheet identified above and product correlation.

**TOPIC NO. 7:**

Spreadsheets produced by Freescale in discovery purporting to set forth information regarding sales of products accused of infringing the Chan and Fortin patents, including but not limited to the spreadsheets produced in the range FSI DEL 109510-111252.

**RESPONSE:**

Freescale objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding the sales data contained in the Excel spreadsheet identified above.

**TOPIC NO. 8:**

An identification and description of the fabrication facility or facilities in which each of the products identified in the spreadsheets produced by Freescale in discovery and labeled with bates numbers FSI DEL 109510-111252 was manufactured.

**RESPONSE:**

Freescale objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding fabrication facilities used to manufacture the products contained in the Excel spreadsheet identified above.

**TOPIC NO. 9:**

An identification and description of the facilities in which each of the products identified in the spreadsheets produced by Freescale in discovery and labeled with bates numbers FSI DEL 109510-111252 was assembled and tested.

**RESPONSE:**

Freescale objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding the facility used to assemble and test the finished commercial products contained in the Excel spreadsheet identified above.

**TOPIC NO. 10:**

An identification and description of the warehouse or warehouses in which inventory of each of the products identified in the spreadsheets produced in the range FSI DEL 109510-111252 was stored.

**RESPONSE:**

Freescale objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding the location of warehouses for Freescale products.

**TOPIC NO. 11:**

Freescale's policies and practices with respect to sales agreements between Freescale and its customers, including the terms and conditions of such agreements.

**RESPONSE:**

Freescale objects to this topic as vague and ambiguous. Freescale understands the request to be directed to standard terms and conditions of sales agreements. Freescale further objects to this topic as overbroad and unduly burdensome in scope and time. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding sales agreements with U.S. customers.

**TOPIC NO. 12:**

Documents relating to Freescale's marketing of each accused product.

**RESPONSE:**

Freescale objects to this topic as overbroad and unduly burdensome in scope and time. Freescale further objects to this topic as ambiguous and vague; it is not clear whether this

topic is directed to promotional materials used to market the Freescale Accused Products. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving any general or specific objections, Freescale will produce witness(es) with knowledge regarding the marketing (promotional materials) for Freescale Accused Products in the United States.

**TOPIC NO. 13:**

Communications within Freescale, and between Freescale and any third party, regarding the actual, intended, or possible use, shipment and distribution in the United States of each accused product (including products that incorporate an accused product), including without limitation qualifying each accused product for use in the United States.

**RESPONSE:**

Freescale specifically objects to this topic as overly broad and unduly burdensome in scope and time and, in particular, to the extent it seeks information with respect to all such customer communications. The only relevant sales are U.S. sales of accused products under the asserted ProMOS patents and, as to products accused under the Fortin patent, U.S. sales since January 1, 2004.

Subject to and without waiving the general and specific objections, Freescale will produce witness(es) with knowledge regarding the general types of communications between U.S. customers and Freescale.

**TOPIC NO. 14:**

The name of the process flow or "technology" (e.g., HiP7A) used in each of Freescale's fabrication facilities from January 1, 2004 to the present.

**RESPONSE:**

Freescale specifically objects to this topic as overbroad and unduly burdensome in scope and, in particular, to the extent it seeks information with respect to “each process flow or technology” regardless of location or product manufactured. Freescale understands that the claims asserted under the Fortin patent are limited to the “HiP7” and “HiP8” processes.

Subject to and without waiving the general and specific objections, Freescale will produce witness(es) with knowledge regarding the naming conventions used for accused processes to the extent used after January 1, 2004.

**TOPIC NO. 15:**

The name of the process flow or “technology” used in each of Freescale’s fabrication facilities from January 1, 2000 to December 1, 2003.

**RESPONSE:**

Freescale specifically objects to this topic as overbroad and unduly burdensome in scope and, in particular, to the extent it seeks information with respect to “process flows” or “technologies” for all facilities, regardless of location or product being made. Freescale understands that the claims asserted under the Fortin patent are limited to the “HiP7” and “HiP8” processes. Freescale further understands that certain processes used at Freescale are prior art.

Freescale further objects to this topic as overbroad and unduly burdensome in scope and time as the only relevant naming conventions for the accused processes are after the Fortin patent issued on December 30, 2003.

Subject to and without waiving the general and specific objections, Freescale will produce witness(es) with knowledge regarding the naming conventions used for accused processes to the extent used after January 1, 2004 and any prior art processes.



**TOPIC NO. 16:**

For each Freescale fabrication facility, documents correlating product or part names to particular process flows or “technologies.”

**RESPONSE:**

Freescale specifically objects to this topic as overbroad and unduly burdensome in scope and, in particular, to the extent it seeks information with respect to “each process flow or technology.” Freescale understands that the claims asserted under the Fortin patent are limited to the “HiP7” and “HiP8” processes.

Subject to and without waiving the general and specific objections, Freescale will produce witness(es) with knowledge regarding the naming conventions and associated documents used for accused processes and prior art processes produced in this action as well as corresponding part names.

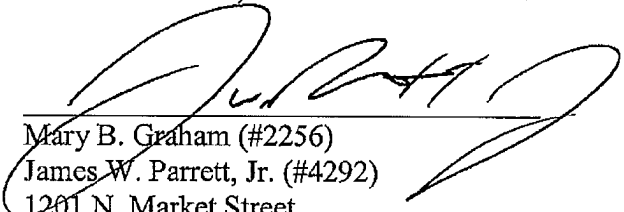
**TOPIC NO. 17:**

The types and locations of documents relevant to each of the foregoing topics.

**RESPONSE:**

Freescale specifically objects to this topic as unduly burdensome and duplicative to the extent this topic is already covered in connection with many of the prior topics (*e.g.*, topics 4, 5, 6, 7, 8, 9 and 10). Freescale further objects to this topic as vague and ambiguous; the topic has no intelligible meaning as to many of the prior topics (*e.g.*, topics 14 and 15).

MORRIS NICHOLS, ARSHT & TUNNELL LLP



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216.586.3939

Dated: December 3, 2007  
1325069

*Attorneys for Freescale Semiconductor, Inc.*

**CERTIFICATE OF SERVICE**

I hereby certify that on December 3, 2007, true and correct copies of the foregoing were caused to be served upon the following individuals in the manner indicated:

**BY E-MAIL**

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Capital Reporting Company  
CONFIDENTIAL

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Page 1

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

.....  
PROMOS TECHNOLOGIES, INC., :  
Plaintiff, : CIVIL ACTION NO.  
VS. : 06-788-JJF  
FREESCALE SEMICONDUCTOR, INC., :  
Defendant. :

.....:.....  
CONFIDENTIAL - OUTSIDE ATTORNEYS' EYES ONLY  
.....

ORAL AND VIDEOTAPED 30(b)(6) DEPOSITION OF  
FREESCALE SEMICONDUCTOR, INC. BY AND THROUGH KAREN  
MARIE RAPP, produced as a witness at the instance of  
the Plaintiff, and duly sworn, was taken in the  
above-styled and numbered cause on Thursday, December  
6, 2007, from 12:39 to 7:06 p.m., before Mary C.  
Dopico, Certified Shorthand Reporter No. 463 and  
Notary Public in and for the State of Texas, reported  
by machine shorthand and audio/video recording at the  
offices of Fulbright & Jaworski LLP, 600 Congress  
Avenue, Suite 2400, Austin, Texas, pursuant to Notice  
and the Federal Rules of Civil Procedure and the  
provisions stated on the record or attached hereto.

REDACTED



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<jday@ashby-geddes.com>

12/07/2007 04:55 PM

To <jjf\_civil@ded.uscourts.gov>

cc <sjrouth@hhlaw.com>, <sajensen@hhlaw.com>,  
<smcook@hhlaw.com>, <kswillen@hhlaw.com>,  
<whwright@hhlaw.com>,  
bcc

Subject ProMOS Technologies, Inc. v. Freescale semiconductor, Inc.,  
C.A. No. 06-788-JJF

History: This message has been forwarded.

Friday December 7, 2007

The Honorable Joseph J. Farnan  
United States District Judge  
844 King Street  
Wilmington, Delaware 19801

Dear Judge Farnan:

Pursuant to the Court's emergency email procedure, plaintiff ProMOS Technologies, Inc. ("ProMOS") respectfully seeks the Court's assistance regarding the failure of defendant Freescale Semiconductor, Inc. ("Freescale") to comply with ¶ 2 of this Court's October 31, 2007 Order requiring production of an adequately prepared Rule 30(b)(6) corporate designee to testify in response to a Notice of Deposition served over 5 months ago. As the parties will be before the Court for a Markman hearing at 2:00 pm on Thursday, December 13, 2007, we would be grateful if the Court would allow us the opportunity to briefly address this issue at that hearing, and to submit to the Court in advance of the hearing excerpts from the transcript of the Rule 30(b)(6) deposition that illustrate the manner in which Freescale failed to comply with the Court's October 31<sup>st</sup> Order. The Court's attention to this matter on an expedited basis would be greatly appreciated so that the parties may move forward to complete discovery efficiently and in the short time remaining in the discovery period.

As the Court may recall, the purpose of this Rule 30(b)(6) deposition was to obtain sworn testimony regarding the types of technical documents that Freescale maintains on the designs of the Accused Products. Such testimony is important here because Freescale still has not produced many technical documents on the Accused Products that one normally would expect a semiconductor manufacturer to maintain. Over the past week and a half, Freescale has begun producing "RTL documentation" of the type the Court ordered it to produce in ¶ 1.b of the October 31<sup>st</sup> Order. (Although that production has been somewhat delayed, the parties have been working cooperatively to complete Freescale's compliance with ¶ 1 of the Order, so that ProMOS may then provide infringement contentions. ProMOS does not seek further Court assistance regarding ¶ 1 of the Order at this time).

With respect to ¶ 2 of the Order, however, Freescale's production of a Rule 30(b)(6) witness on November 30, 2007 was deficient in several significant ways:

1. Freescale's witness was neither prepared or nor able to testify about the noticed 30(b)(6) topics, most principally the subject of technical documents maintained by Freescale relating to the Accused Products. He testified repeatedly that he had made no effort whatsoever to educate himself about the types of technical documents Freescale maintains, and he instead relied on a "cheat sheet" he had been given by counsel which merely identified documents that counsel had collected and produced in discovery. He repeatedly answered "none" when asked about what effort had been made to collect information from

others at Freescale and about what information he could provide on whether Freescale maintains other responsive technical documents. See, e.g., Transcript ("Tr.") at page 13:line 3 – 23:11; 50:19 – 53:8; 65:1 – 65:19; 82:22 – 84:2; 101:3 – 107:9; 109:6 – 109:14; 117:21 – 119:23; 138:6 – 139:2.

2. Freescale's counsel instructed the witness not to answer basic questions about the witness's preparation to fulfill his responsibilities as a Rule 30(b)(6) deponent, including, for example: "Q. Did you talk to anyone else at Freescale other than your counsel in preparation for today's deposition?"; and "Q. Did you review any documents in preparation for today's deposition?" Counsel also instructed the witness not to answer basic questions about the "cheat sheet," purportedly on the basis that the questions sought information protected by the work product doctrine. See, e.g., Tr. 13:13 – 23:11; 50:19 – 53:8. As a result, it is impossible to know the extent to which certain categories of technical documents do or do not exist at Freescale, which was the main purpose of the deposition. Freescale's counsel also unilaterally declared "breaks" and removed the witness from the deposition while questions were pending, even when there clearly was no basis for asserting the existence of any attorney-client privilege or other justification. See, e.g., Tr. 57:4 – 58:20; 75:14 – 79:5.

3. Perhaps most importantly, to the extent the witness happened to have personal knowledge about technical documents that Freescale maintains for certain Accused Products, the witness' testimony indicates that Freescale has withheld substantial and important responsive technical documents relating to the Accused Products, apparently including hand-drawn circuit schematics of the type that Freescale has represented to ProMOS and to the Court that it does not generate and therefore cannot produce in discovery. See, e.g., Tr. 146:19 – 153:1 ("Q. Would you expect it to be more useful to review the hand-generated schematics than to review the computer-generated schematics from the RTL code? A. Absolutely.") It further appears that, as ProMOS has suspected, Freescale has failed to acknowledge or produce substantial "microarchitectural" or "architectural definition" documentation that allows for efficient and complete use of the RTL documentation that the Court ordered Freescale to produce in ¶ 1.b of the October 31 Order. Tr. 30:18 – 31:9; 82:10 – 85:19; 101:17 – 104:2; 149:17 – 150:22. To date, Freescale has produced only a smattering of such documentation for a few of the Accused Products.

Counsel for ProMOS has discussed with counsel for Freescale the correction of certain of the deficiencies summarized above. However, because discovery is currently scheduled to close in just over a month (on January 21, 2007), and given the great difficulties that ProMOS has had in obtaining Freescale's compliance with its discovery obligations (even in the face of the express mandate in ¶ 2 of this Court's October 31, 2007 Order), ProMOS respectfully requests the Court's permission to address this issue at the December 13<sup>th</sup> hearing, and to submit relevant excerpts from the deposition transcript to the Court for its consideration in advance of the hearing. The relief that ProMOS will request (including additional deposition time and document production) may impact other discovery and obligations that must be completed in the next few weeks.

Respectfully,

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and I'll try [14] to limit my comments to one or two comments per claim term at [15] issue.

[16] With regard to the PVD/CVD issue, Freescale's [17] construction is premised on this language that they pulled from [18] the prosecution history saying CVD is not PVD.

[19] ProMOS has never contended nor does it contend [20] now that CVD and PVD are the same thing. If we were making [21] that contention, that's the context that you would expect [22] Freescale to come forward and point to this language as a [23] disclaimer of that position.

[24] Certainly PVD and CVD are not synonymous. Our

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[1] argument is that the presence of one does not necessarily [2] connote the absence of the other, and that's a point that is [3] obscured in Freescale's proposed construction. It's hard to [4] come up with a good analogy, but one that comes to mind is the [5] use of salt and pepper. Salt is not pepper, but simply because [6] you're using salt doesn't mean you wouldn't also use pepper, [7] and you certainly wouldn't describe or define salt by the fact [8] that it is not pepper. You would describe it for what it is. [9] If you were to describe it as not being pepper, you would [10] confuse someone who is trying to figure out whether using salt [11] and pepper infringes upon that claim.

[12] Freescale also has argued that the handbook that [13] was cited and incorporated by reference into the specification [14] constitutes extrinsic evidence. It is not. It is intrinsic [15] evidence because it was incorporated by reference by the [16] patentee, and it was incorporated for the very purpose of [17] telling the public what is meant by PVD.

[18] I don't want to waste too much time pointing Your [19] Honor to the slide, but it's somewhere around Slide 90 or 91 in [20] the materials we provided you with, and the specification [21] expressly says that the physical vapor deposition process is [22] not limited to any particular sputtering process but could [23] include other processes as well, and then they cite to the [24] handbook. That citation to the handbook was for the express

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[1] purpose of providing a definition for what PVD means and what [2] processes would be included in the definition of PVD.

[3] Miss Graham also referenced a Bayer case, and [4] it's important to note that the case was also cited in their [5] Brief, Bayer Healthcare v. Abbott Labs and several

other cases [6] in which the Court ended up construing a claim term and [7] excluding a certain piece of an assembled item and excluding [8] one piece of an assembled item or excluding — in that Bayer [9] case it was chains from a gear that was being claimed — is [10] very different than the situation we have here. We don't have [11] the situation where there's an assembled item and we're trying [12] to remove a piece of it.

[13] They're trying to define something by some [14] entirely separate process. Again, it's by defining it by what [15] it is not as opposed to excluding one piece out of an assembled [16] item which is what the Bayer line of cases refers to.

[17] With regard to the claim term "sputtering," just [18] so that there's no confusion, nobody is contending that [19] sputtering is never a form of PVD. It is possible to perform [20] PVD using a sputtering process, but that does not mean that [21] sputtering is always PVD. Sputtering does not always involve [22] deposition. That's a point that the specification makes clear [23] in the very citations that Freescale cited to during its [24] presentation. The patentee sometimes would talk about sputter

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[1] deposition. That's a form of sputtering. But that's not all [2] of what sputtering encompasses, and the patentee in the [3] specification went out of his way to say that we're not [4] limiting our invention to any specific form of sputtering, and [5] it's that same specification cite where he points to to the [6] handbook for the definition of PVD.

[7] Finally, with regard to the claim term [8] "rounding," Miss Graham suggested that if Your Honor was going [9] to find the claim term definite on the basis of the description [10] and specification, that Your Honor should also import the [11] limitations, the mathematical formulas in the specification [12] into the construction itself, and the case law makes clear that [13] that's just not proper.

[14] In one of the cases we cited in our Brief the [15] Modi Manufacturing Company versus United States International [16] Trade Commission case, the Court said "ordinarily a claim [17] element that is claimed in general descriptive words, when a [18] numerical range appears in the specification, is not limited to [19] the numbers on the specification or the other claims."

[20] You don't necessarily take the chemical formula [21] or the time or the mathematical formula that exists in a [22] specification and import it into the claim simply because that [23] was one example of how you perform rounding.

[24] In any event, the term "rounding" is clear to one

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[1] who is skilled in the art. It's also clear to someone who is [2] not skilled in the art. A citation to the specification was [3] merely a way of demonstrating the extra length that the [4] patentee went to to make clear one example of how you could [5] perform the rounding process.

[6] THE COURT: All right. Thank you.

[7] MR. ROUTH: Your Honor, if I'm watching the clock [8] correctly, we've used an hour and twenty minutes of our hour [9] and thirty minutes. I don't want to take up more of the [10] Court's time on claim construction.

[11] There is an issue of Discovery that we've brought [12] to the Court via the e-mail system. I don't know if the [13] Court's seen our e-mail or is familiar with the situation.

[14] THE COURT: I am.

[15] MR. ROUTH: If the Court will allow us to address [16] that I'd like to do that now.

[17] THE COURT: All right.

[18] MS. GRAHAM: Your Honor, might I just hand up our [19] presentation before Mr. Routh begins?

[20] THE COURT: Sure.

[21] MR. ROUTH: The discussion we had today makes [22] clear how important it is in proceeding with this case for us [23] to have complete access to technical documentation that [24] Freescale maintains about the design of its products so that we

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[1] can know exactly how its cache memories are set up, where the [2] registers are, how the signals flow, et cetera.

[3] Because of that very early on in Discovery one of [4] the first things we sought was a deposition, a 30(b)(6) [5] deposition, of a witness prepared to testify about the [6] documentation that's maintained so that we could get sworn [7] testimony about what is and is not maintained.

[8] The Court's received a Motion to Compel and [9] granted an Order on that 30(b)(6) deposition, which we asked [10] for in July and got finally pursuant to your Order of [11] October 31.

[12] The deposition was conducted a week and a half [13] ago. Unfortunately we still don't know what documentation [14] Freescale maintains, at least not all of it, and that's because [15] the witness who appeared first and foremost was not prepared to [16] speak to the documentation Freescale maintains. He an-

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swered [17] question after question about documentation and whether it [18] exists for these products and whether it exists in this area [19] and whether it exists in this type by saying, I know a little [20] bit about that from my personal knowledge but I really don't [21] know. I've done nothing to determine the documentation [22] maintained by Freescale. I've talked to no one. I've gathered [23] no information. What he had done was largely received [24] information from counsel as to what counsel had collected and

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[1] produced in Discovery.

[2] I'm happy to hand up the transcript if the Court [3] wants to see the testimony on this, but we have question after [4] question where we cannot get an answer to whether Freescale, in [5] fact, maintains a certain type of documentation or where we [6] find out it does, whether it's maintained for some products or [7] all products.

[8] Second problem with the deposition was that the [9] witness was repeatedly instructed not to answer questions, and [10] at least on two occasions was taken out of the room while [11] questions were pending, where counsel did not want to disclose [12] what the witness had done to prepare for the deposition, to [13] prepare to provide a 30(b)(6) deposition. I'm not talking [14] about his discussions with counsel how to think about the [15] deposition. I'm talking about what he had done to gather the [16] information available to the company to allow the witness to [17] responsively answer on behalf of the company.

[18] So we don't know exactly what he reviewed, but [19] what we can tell is he didn't review much. And we know that [20] we've had some interference with trying to get to the bottom of [21] that.

[22] What we finally know is that in a number of areas [23] where specific products that this witness worked on, he [24] disclosed the existence of documentation that has not been

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[1] produced in Discovery. Some of that documentation we [2] understand is being compiled now. This includes hand-generated [3] schematics which the witness said would absolutely be the best [4] source of information about designs in some areas, and includes [5] what's referred to as microarchitectural documentation that [6] explains how the designs are set up. The microarchitectural [7] documentation is important to understanding the RTL [8] documentation which the Court has already heard about and [9] issued an Order compelling the production of.

[10] So it's a long way of saying we didn't get a [11] satisfactory deposition and we don't know yet all the [12] documentation we're missing but we believe we're missing some.

[13] Having said all of that the Court has previously [14] ordered the production of RTL documentation. That's gone [15] forward in a cooperative manner. We've received I think most, [16] if not all, of that, although we agreed to extend the deadline [17] for doing that and we are now in the process of putting [18] together our infringement contentions on an extended deadline [19] from what the Court ordered there.

[20] We're very frustrated with not yet having a [21] complete deposition and we want the Court to grant us an Order [22] producing a witness who is prepared to testify completely on [23] what documentation exists.

[24] Not having a prior deposition countered against

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[1] us in the time allotment we agreed to for the deposition, our [2] costs and fees paid for in connection with that and an absolute [3] Order that if there's documentation relating to the technical [4] design of the Freescale products that are accused, that we [5] receive that without any further delay. That's what we'd like [6] to ask the Court to do and, as I said, I think to understand [7] this issue in more detail with the Court what we need to do is [8] spend about twenty minutes looking at a deposition transcript [9] which we could hand up because it's pretty clear from the face [10] of that that this deposition did not go forward as I would have [11] expected given the Court's October 31st Order.

[12] THE COURT: All right. If you want to pass it [13] up.

[14] MR. ROUTH: This is multiple copies, Your Honor.

[15] THE COURT: Thank you.

[16] MS. GRAHAM: Your Honor, I'd like to address one [17] aspect of what Mr. Routh just said and then Mr. Maersch will [18] respond with respect to what occurred at the deposition.

[19] I want to respond to the point about the extent [20] to which the witness should have answered questions about his [21] preparation for the deposition.

[22] Those questions are seeking work product. What [23] the witness did to prepare for the deposition was work with [24] counsel, review documents with counsel. I don't know if there

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[1] were any other discussions, but everything that that witness [2] did to prepare

for the deposition was work product. I know of [3] no authority that says that simply because it is a Rule [4] 30(b)(6) deposition, that that changes the fact that the [5] preparation is work product, and if one thinks about it, [6] there's a good reason not to somehow open the door to work [7] product simply because it's a Rule 30(b)(6) deposition.

[8] What that leads to, and which is the reason in my [9] own practice I do not allow a witness to answer those questions [10] for the most part, is because then you end up with disputes and [11] that's a lot of times what people are looking for, is to sort [12] of catch the witness in terms of what their preparation was.

[13] It doesn't matter what their preparation was as [14] long as they can answer the questions on behalf of the [15] corporation that are within the scope of the deposition notice.

[16] And Mr. Maersch is going to address the problem [17] we have here where the questions were not within the scope of [18] the deposition notice.

[19] And with respect to specifically questions about [20] what documents were reviewed, that's the 20-year-old Third [21] Circuit case in *Sport v. Pyle*. The Court said no, the [22] documents that are shown to a witness in preparation for a [23] deposition, that is work product and you can't just ask the [24] witness Oh, what documents did you review? In fact, you can't

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[1] even ask under that case what documents refreshed your [2] recollection. You have to go at it to find out whether the [3] witness' testimony is based on recollection that is refreshed [4] by a document and, if so, what document, and then you can find [5] out the document that way.

[6] But, again, there's nothing — I know of no case [7] that suggests that somehow it should be different in the case [8] of a Rule 30(b)(6) witness.

[9] But, in addition here, when I made the point that [10] opening the door tends to lead to disputes that are side [11] disputes tangential to what really should be going on at the [12] deposition which is to get information about the substance of [13] the topics, here in the end the witness was allowed to answer [14] the questions about what he did to prepare and what he looked [15] at, so they got that information.

[16] Moreover, after that point the parties decided to [17] agree, which of course parties are free to do, that they would [18] in fact allow such questioning at their 30(b)(6) deposition. [19] We're doing that in the Texas case and we're doing that

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here. [20] So this is all I would submit to you a side dispute intended to [21] distract from other issues, and with that I'd like to turn this [22] over to Mr. Maersch.

[23] **MR. MAERSCH:** Good afternoon, Your Honor.

[24] **THE COURT:** Good afternoon.

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[1] **MR. MAERSCH:** The issue here, all ProMOS's [2] complaints about our witness and his preparation go to one [3] issue. The topics they noticed, we went and got the guy that [4] knows about those topics at Freescale. This guy is an [5] architect of all of our cores and he knows exactly what goes [6] into the cores for the cache and the cache controller and he's [7] been doing this for 20 years and he's the guy on those topics.

[8] The problem is they went and asked questions [9] about product level, chip level stuff, all the stuff that has [10] nothing to do with this case, and this is the same issue that [11] we've been dealing with ProMOS on since the beginning of [12] Discovery because they asked for it then and I understood [13] Mr. Routh to stand up here and just ask for this now, they want [14] every single document that Freescale's ever generated because [15] when you say I want all documents about this list of accused [16] products, that's everything.

[17] The stuff that's relevant for this case, the [18] stuff that's in a little area of a chip that we call the core, [19] it has all the caches, it has all the registers, it has all the [20] signals that they told you that they need, and so —

[21] And their depo notice recognized that. Their [22] deposition notice asked for documents about the cache, [23] documents about the cache controller.

[24] In the deposition they didn't limit their

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[1] questions to anything, and so when they did limit their [2] questions to stuff about the cache and the cache controller, [3] the guy gave them good answers. The guy told them and then he [4] would answer with respect to the core. With respect to the [5] core there's microarchitectural documents, there's block [6] guides, there's this. Okay. Well, what about, you know — are [7] they always called microarchitectural documents? Oh, no. In [8] other technologies, like — he didn't work on all of our [9] products; he worked on some. In that one, it's called an [10] implementation guide; in this one it's called a resource guide.

[11] So when they limited their questions to the [12] topic, they got good testimony

and they got the testimony they [13] needed. He explained to them what documents we have. He [14] explained to them how to use the documents together. And not [15] only that, all these — in their e-mail to you they make this [16] representation that all of these microarchitectural documents [17] have not been produced.

[18] It's not true. We produced all those [19] microarchitectural documents for the cores. This guy doesn't [20] have any knowledge about whether microarchitectural documents [21] exist for the whole product because that's outside the scope of [22] the depo notice. If they would have noticed that deposition, [23] we would have said hey, that's far outside of the relevance [24] for this case. And I actually have slides if you don't — I

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[1] mean, I have — I have a slide that shows the distinction for [2] Your Honor between the product and the core so you can see, you [3] know, we're talking about, you know, the State of Delaware [4] versus downtown Wilmington as far as the product, as far as the [5] documentation goes and as far as the product itself goes.

[6] Let me just put that up. So basically what I [7] have here is three documents that we took out of our product [8] documentation, three pictures.

[9] The far one on the top that's labeled Product [10] Chip shows at a high level what our products contain, and [11] there's all kinds of stuff on there depending on the technology [12] — USB controllers, ethernet controllers, something that hooks [13] into your dashboard, something that hooks to the tractor that [14] it works on, all kinds of stuff that has nothing to do with [15] caches or cache controllers.

[16] The middle one, the core, now we're getting into [17] the meat and potatoes of what this patent's about.

[18] And then you get all the way down to the cache [19] controller level and that shows, you know, the real stuff [20] they're looking at. So as you can see from the document the [21] core is just such a small subset of the stuff and so, like I [22] said, they noticed their deposition about those topics, and [23] actually I'm gonna hand up a copy if it's all right with you [24] about the deposition notice.

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[1] And the topics start on Page 2. It's all [2] directed to cache and cache controllers, so that's the guy we [3] went and got. And when they asked questions that went to their [4] notice they got good answers.

[5] Now I want to talk for a second about the [6] hand-drawn schematics, circuit

schematics. So in their letter [7] to you they basically represented to you that Freescale has [8] been telling us all along that they don't have schematics, and [9] they said in their papers, they said it to the Court, and oh, [10] it turns out they do have schematics and, you know, this guy's [11] the smoking gun.

[12] These schematics that they're talking about have [13] nothing to do with our circuit designs at all. These are [14] what's called library elements and the easiest analogy I can [15] think of is when our guys sit down to design our circuits, they [16] design an RTL. There's microarchitectural documents that they [17] use to tell them what to design and there's microarchitectural [18] documents that they use to represent what they did design, and [19] they have all those documents.

[20] So the circuit design is done in RTL. When you [21] take the circuit design and you have to build the chip to put [22] it in whatever technology you need, whether it's gonna be a [23] controller for a tractor or a bluetooth headset thing or some [24] chip that goes in your cell phone, you incorporate some sort of

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[1] structure to represent the design and those are —

[2] The schematics they're talking about are pictures [3] of individual gate level elements that are basically the [4] transistors that are gonna implement this design. It has [5] nothing to do with the design of our products. It has nothing [6] to do with whether there's a cache or a cache controller or [7] what registers or what circuits. All that stuff is in the RTL [8] and described in the microarchitectural documents. This stuff [9] is just a side trip, and I've got some examples of it.

[10] This is one of the hand-drawn schematics they're [11] talking about and so —

[12] You know, the other point about the deposition on [13] the hand-drawn schematics issue, Your Honor, is it was almost [14] as if ProMOS just wanted to get the witness to say on the [15] record that Freescale has schematics and they weren't produced [16] to ProMOS and as soon as the witness made that representation, [17] the questioning went on to some other topic, and so they never [18] got into what these are and why they're not relevant to [19] anything that ProMOS cares about. They just heard the word [20] "schematics" and they went on. And we've told them about these [21] schematics, but they don't have anything to do with design. [22] They're not circuit design schematics. The witness told them [23] that. You know, the witness was asked repeatedly, Do you have [24] schematics for this or schematics for that? No, not for the



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[1] design, we don't.

[2] So these are — so what this is, this is called a [3] gate level representation of a particular element of our [4] circuit...this is a — or not our circuit — of our — what [5] is this? This is an and gate, an and/or gate. So this is one [6] gate that we use.

[7] So if we — we have this library of these [8] structural elements and if we design some registers and it's [9] gonna be, you know, in a farm tractor, we're gonna use one [10] particular library to implement that design because in a farm [11] tractor, you know, who cares how big the transistor is? [12] There's no size requirement or heat requirement, whereas if [13] you're gonna put this circuit in a bluetooth headset, there's [14] all kinds of requirements and so you're gonna pick a different [15] library, and these are just schematics of the library. They're [16] independent of the design. They have nothing to do with [17] design.

[18] And they talked in the deposition, our witness [19] made reference to high-level schematics and low-level [20] schematics. Well, a high-level schematic is that. It's a gate [21] level representation, signal in/signal out, signal's applied to [22] it. That's the transistor implementation of it. It's just a [23] bunch of transistors. It has nothing to do with any design [24] that has anything to do with any of our products. It's a

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[1] product and design independent.

[2] I would have expected this testimony to come out [3] of the 30(b)(6), but they didn't go into that. In fact I think [4] there were — I was just handed a note. I think there were ten [5] questions that contained the word "cache" in a five-hour [6] deposition. I read the deposition two or three times. Several [7] of those questions were — the ones that I remember are ones [8] about new products. Well, does this new product have a cache? [9] Does this new product have a cache? They just didn't — they [10] didn't address the topics that they said they were gonna [11] address and so when they limited their questions to the topics, [12] they got good testimony. The guy explained here's how it works [13] and —

[14] Not only — so not only did he explain what [15] documents we have about our design, but he explained how the [16] documents work together. Miss Cook asked him well, if you were [17] gonna sit down and redesign a circuit, what documents are you [18] gonna want? And he said well, it depends. What are you [19] redesigning? If you're redesigning, you know, functionality of [20] the circuit, you're gonna want the RTL and the [21] microarchitectural documents, and the-

y've got the RTL and [22] they've got the microarchitectural documents.

[23] If you're designing something else — you know, [24] let's say you're taking — you need to create a library element

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[1] because you want to take this particular circuit that's in a [2] farm tractor and put it in your cell phone. That's gonna [3] require some miniaturization of the structures used to [4] implement the design, and so that's a whole different set of [5] documents, but it has nothing to do with (a), their topic or [6] (b), this case. So that's the point.

[7] The hand-drawn schematics are not the schematics [8] they say they are. They don't represent our circuits. They're [9] just pictures of individual elements. Here's the easiest [10] analogy I have for you.

[11] If I draw a house plan, I can use brick, I can [12] use block, I can use wood, I can use metal to implement that [13] house plan. It's independent of the house plan. The [14] bathroom's gonna be in the same place, the bedroom's gonna be [15] in the same place. It's gonna be the same design. It doesn't [16] really matter how you implement it.

[17] And that's what those — those — those — the [18] hand-drawn schematics are talking about are picture of bricks. [19] They're pictures of two-by-fours. They have nothing to do with [20] our design. They have nothing to do with our house plan [21] whatsoever.

[22] The point is, when they got the guy on the right [23] topics he gave them good testimony and the places where they're [24] gonna tell you he didn't do anything to prepare are the places

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[1] where you're asking about products. You're asking about [2] something that he doesn't even work on.

[3] The microarchitectural documents that he talked [4] about have all been produced to ProMOS months ago and these [5] microarchitectural documents aren't just, you know, pages here [6] or there. These are — some are 2000 pages. I think the [7] smallest one I've ever seen is 500 pages. They have all of [8] those for all our cores. And the hand-drawn circuit schematics [9] have nothing to do with the circuits.

[10] We're trying really hard to get Discovery behind [11] us, and every time ProMOS wants something, we bend over [12] backwards to get it for them.

[13] You know, we had this issue with — they want to [14] generate schematics and we've told you and told everyone in all [15] our papers we don't design that way. We design an RTL. [16] Schematics is

the old way and they use it for different [17] designs. Schematics are used unquestionably for certain [18] elements of a semiconductor design. They just have nothing to [19] do with what we do. We either get those libraries from some [20] external company or, you know — we just don't do it that way.

[21] By the way, for the record, Mr. Routh stood up [22] and said that you ordered us to produce a 30(b)(6) witness or [23] your Order had something to do with us refusing to put up a [24] 30(b)(6) witness is not correct. The Order related to

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[1] deposition location as Your Honor will recall. We had a [2] dispute as to Texas, Delaware, LA, couldn't reach an agreement [3] and that's what the Order — it's not we refused to put up a [4] 30(b)(6). Quite frankly we would have loved to have a 30(b)(6) [5] happen earlier because they theoretically would have asked him [6] the questions to start to put to bed all these complaints about [7] the documents. They have everything they need.

[8] And going to my other point, we're trying really [9] hard to get Discovery behind us. Every time they ask us for [10] something we give it to them. When your Order came out on [11] schematics, we don't use schematics. We'd have to generate [12] them. We don't know what circuits you want. We don't know [13] what you're looking for. Why don't you come down to Austin, [14] we'll set up work stations, you can poke around with our guys [15] and see what they see and generate whatever you want, and they [16] don't want to do that, so we reached an agreement to give them [17] the RTL code and give them the software that we were gonna use [18] had we had to generate the schematics.

[19] You know, with respect to the RTL code is another [20] good example. They asked for RTL code for the entire product, [21] and we understood Your Honor's Order to order us to produce RTL [22] code for the entire product. That's fine.

[23] As part of our discussions with ProMOS we said [24] okay, we're gonna produce this RTL code, and they said well,

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[1] how can we get it sooner? How can we speed it up? And I said [2] frankly you're asking for stuff on the product level, you know, [3] i.e. all that stuff, but we all know you really just want the [4] core stuff, and they said yeah, that's right. If that will [5] speed it up, we'll do the core stuff.

[6] And then Mr. Routh said in an e-mail to me, you [7] know, if we could identify a list of representative products, [8] it's gonna scale down the amount of stuff

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you have to produce [9] to us, so we agreed with them on a list of representative [10] products and, you know, a week later they reneged on both [11] agreements. Well, we were kidding earlier. We really want it [12] on the whole product, and so we had to switch gears and contact [13] a whole new group of people and go start getting that RTL code [14] which we produced to them, and that production was — I have [15] the dates. 12/5 it was done. All the RTL code for all the [16] products that they wanted we gave to them and, frankly, we went [17] and did that —

[18] We restored servers. We did things that Rule 34 [19] does not require us to do, because these products are old. A [20] lot of them were designed in the '90s and that stuff's just not [21] laying around. It's not an active design.

[22] We went and restored the server, got the stuff, [23] gave it to them. They want the RTL for just the core. Oh, we [24] want it for the whole chip. Okay, we'll do it that way.

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[1] You know, the schematics are another good [2] example. We reached an agreement with them to give them the [3] RTL and give them the software, but what they're gonna be doing [4] is basically printing out evidence of our designs that we've [5] never seen because we don't represent our designs that way, and [6] we said well, okay, whatever you print or create, this is [7] highly sensitive information to us, we want you to Bates label [8] it and we want you to give us a copy so we have some idea what [9] you're doing with our documentation, and that was the agreement [10] under which we agreed to produce the RTL and they reneged on [11] that. After we sent them so much RTL code and every single [12] letter I sent them saying here's the framework, here's how we'd [13] like you to implement it, contact me ASAP if you don't agree [14] with this, and after three productions they said Oh, all that [15] stuff is work product.

[16] So they're now taking the position that — you [17] know, they reneged on the agreement and all the stuff they get [18] from our designs is work product. It's just — it's —

[19] The deposition notice was clear as to what they [20] wanted. The witness we brought in was the guy to talk about [21] all that stuff and when they asked questions about that stuff [22] they got the testimony. It's just — it seems to me to be [23] another episode in how can we keep, you know, Discovery [24] disputes governing this case, and I'm here to tell you we are

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[1] doing everything we can to get Discovery behind us. Every time [2] they want something we give it to them, even if they change [3] their mind. Okay. That's fine. Change your mind. Do it. [4] We'll give you that too.

[5] They don't need an Order from you ordering us to [6] produce all the documents that they need because they already [7] have them and they've had them for months, and that should have [8] been confirmed in the deposition, but the topics didn't touch [9] on it, and the documents that they need they have. And that's [10] how I would address what Mr. Routh said and what was said in [11] the letter. Do you have any questions for me, Your Honor?

[12] THE COURT: Not at this time.

[13] MR. ROUTH: Your Honor, briefly, I have four [14] points I want to make, three of them relate to what Mr. Maersch [15] just said, the fourth one I'll make goes back to Ms. Graham's [16] statements.

[17] I like Mr. Maersch. I think he's working hard on [18] this. I don't think what he's trying to do is getting done. [19] I'm not sure exactly why, but if you listen to what he just [20] said, you'll think when you read that deposition you're gonna [21] find a witness who says I'll tell you about the cache or I'll [22] tell you about the core, but I can't tell you about anything [23] else. That is not what the deposition says.

[24] As Warner Wolf would say, "Let's go to the

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[1] videotape. Go to the transcript." What he says is I can tell [2] you about these two or three products that I've worked on, but [3] I can't tell you anything about the rest of our products.

[4] And when asked, Did you do anything to [5] investigate that so you could provide us with information about [6] the documents Freescale maintains on those other products, he [7] says no.

[8] This is the fundamental problem with the [9] witness' lack of preparation. He did not answer questions on [10] the core generally. He answered questions about a couple of [11] cores and, in fact, when asked, and this is at Page 142, What [12] do you know about the cores, he said that means different [13] things to different people. I don't even understand what it [14] means.

[15] What he told us about were the two or three [16] products that he worked on, and to the extent he told us that [17] they had information about the core, and Mr. Maersch has now [18] told you they produced documentation on the core, I want to [19] remind you of the diagram we looked at earlier up on the [20] screen.

[21] This is Freescale's diagram. This is their [22] nomenclature. This is how they talk about their products. [23] When you talk about the core, you're talking about this. The [24] caches are here.

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[1] Now quite frankly they generally have given us [2] the core complex documentation on some of the products, so we [3] actually get these L1 cache documentations. The L2 [4] documentation is outside the core. We're not getting that [5] documentation. And what this witness said is there should be [6] microarchitectural documentation for all of this and for more, [7] and when we said is that true for all your products, he said I [8] don't know. I just know about the few products I've worked on.

[9] This is what you'll find when you look at the [10] deposition. He didn't say let me tell you about the caches on [11] all of our products. I can't tell you about the USB [12] connection. That's just a red herring. He told us I can tell [13] you about three products; I can't tell you about anymore [14] because no one asked me to prepare for it. I actually think [15] the witness was an ingenuous gentleman who was trying to do his [16] best. He had been ill-prepared and counsel tried to instruct [17] him in inquiry to that, I'll get to that in a minute, but the [18] fact is we are not getting all the documentation and I'd like [19] to ask, amend my earlier request, as part of the Court's Order [20] we'd like to ask the Court to order Freescale to identify the [21] microarchitectural documentation that Mr. Maersch has [22] represented was produced months ago. We have [23] microarchitectural documentation for three products, and it's [24] partial. He's right. A microarchitectural document is

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[1] thousands of pages, 2,000 pages. We've got chapters, the L1 [2] cache chapter for three products. They're not producing. [3] Maybe you're gathering 2,000 pages; it's not coming to us. [4] We've got three products, a small part of microarchitectural [5] documentation, and a witness who says I think you should have [6] it for — I think they should exist for the vast majority of [7] products but I don't really know for sure.

[8] Hand-generated schematics. I don't know exactly [9] what they are. The witness only told us this. Reading now at [10] Page 152. "Hand-generated schematics. Those are done by [11] humans and are done for design entry purposes." I thought I [12] just heard they had nothing to do with design. They're done [13] for design entry purposes as opposed to debug purposes, which [14] is RTL schematics.



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[15] "Question: Would you expect it to be more useful [16] to review the hand-generated schematics than to review the [17] computer-generated schematics from the RTL code?"

[18] "Absolutely." [19] Now this witness told us that these were [20] important. When Miss Cook asked him what would you want to see [21] in order to understand a product to be able to fully comprehend [22] how it's designed, he listed this among them. If he was wrong [23] or if there's some other kind of hand-generated schematics on [24] libraries, I'll work that out with them. But what we have is a

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[1] witness telling us these are important and we don't have them. [2] That was point No. 3.

[3] The final point is to Miss Graham's argument. [4] Questions were not asked of this witness, Tell us what you and [5] your counsel talked about to prepare, or What documents did [6] your counsel give you to prepare? There's always some [7] discussion about the work product protection as to those kind [8] of questions.

[9] The questions we have complaints about were [10] questions of, Have you put yourself in a position to be here [11] today to testify on behalf of Freescale so that you have the [12] knowledge available on Freescale?

[13] Objection. Instruct not to answer. [14] Other than your counsel have you talked to people [15] at Freescale so that you can gather the information available [16] to the corporation to provide it here today?

[17] Objection. Instruction not to answer.

[18] Miss Graham is probably right. By the end of it [19] this gentleman, because he was ingenuous, got to a point where [20] he said over and over I didn't do anything to prepare. Maybe [21] somebody thought he was the right guy. His view is he knows [22] about three products and knows about them pretty well and can [23] say I assumed that for the vast majority of other products you [24] should be getting the same documentation. He was not prepared

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[1] for this deposition and he was taken out of the room being [2] questioned on two different occasions.

[3] I'd like the Court to look at the transcript. It [4] is highly irregular in my twenty-five years of practice to have [5] a deposition of this type, so we submit this and ask the [6] Court's help in this regard.

[7] THE COURT: I'm gonna take a —

[8] MR. WITCOFF: Can I just say something?

[9] THE COURT: Sure.

[10] MR. WITCOFF: And I apologize. This has been a [11] long day. This is getting a little bit — for us and for [12] everybody, including Your Honor, we all have better things to [13] do.

[14] First of all, when you read the transcript you'll [15] see the witness did answer the questions. There were some [16] instructions at the beginning. There was some concerns about [17] privilege being waived, but ultimately all the questions were [18] answered. He never said he didn't prepare for the deposition; [19] in fact, he did prepare. He prepared on the topics noticed [20] which you've been handed up.

[21] Secondly, when you read the transcript you'll [22] notice only a handful of questions were asked about caches and [23] cache — I think there was zero questions on cache controllers [24] and only a handful of questions in general about caches in five

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[1] hours. Those were the noticed topics, were all about caches. [2] They didn't care so much about the caches.

[3] As far as I understand we did produce documents [4] related to the caches and the cache memories and the cache [5] controllers, including the L2 cache documents. Mr. Routh said [6] we didn't. We're happy to work with them. We're not holding [7] anything back.

[8] What really frightens me — and I stress this. [9] We're not holding back anything that's relevant. I want this [10] behind us. You want it behind us. They claim they want it [11] behind them. I'm gonna do whatever it takes to get it behind [12] us. This is getting ridiculous.

[13] What scares me, frankly frightens the tar out of [14] me, is Mr. Routh asked you for an Order asking for us to [15] produce every document relating to the design of every accused [16] product. That's everything we own.

[17] You may recall in the opening scheduling [18] conference we told you that they served us document requests [19] that essentially covered everything, every document we have. [20] This is a gigantic company. We said please try to limit it to [21] what's pertaining to the patent; we'll work with you. And we [22] followed — we made objections to those requests. They never [23] pushed them. We reached an agreement on the types of documents [24] produced which we're trying to produce as hard as we can. I

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[1] think we produced virtually all, if not all, of them. [2] Obviously if we have anything else to produce that's relevant [3] we'll produce it, but every document relating to the design of [4] a product?

The core is a small part of a thing. The L2 cache [5] they have. I'm happy to work with Mr. Routh to produce [6] anything that's relevant, but to say give us everything you [7] have is unworkable.

[8] We even said to them several times we don't know [9] what you want. Come down. We'll give you complete access to [10] our computer system, all of our documents. Come down. We'll [11] have a guy there from Freescale who'll help you. Tell us what [12] you want, we'll find it for you. We want this behind us. We [13] can't seem to get it behind us because they won't let us.

[14] I'm trying. They give me anything specific, [15] we're double-checking. We've got the e-mail to Your Honor. [16] I've had several discussions with Mr. Routh. We're [17] investigating the specific things he said are missing. As far [18] as I can tell there's nothing that pertains to the issues in [19] this case, but if we find anything, we're gonna produce it. [20] There's no way we want this Discovery issue to hang over our [21] heads or to involve Your Honor. We want to get that behind us. [22] We want to get to contentions which is what I suspect this is [23] really about so they don't have to ever give us contentions [24] till after the trial is over. But we want it behind us. I

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[1] think that's my sixty seconds.

[2] MR. ROUTH: We want it behind us, too. We spent [3] four months trying to see if we had to go to a conference room [4] in Cleveland, so the notion that they have been forthcoming [5] from the beginning, we've finally gotten past that with the [6] Court's Order. We want to get past it now.

[7] THE COURT: You want to know what really is [8] dangerous? Having me arbitrarily weigh in to an issue like [9] this. That's what's dangerous, because I understand exactly [10] what you're saying and I understand exactly what you're saying. [11] Because I can err easily, because do I really understand? I [12] understand a little, I've had enough cases, but when you get [13] down to any given dispute, and the kind of dynamic for the [14] decision that I use is well, here's what's gonna happen. I [15] don't usually say this, but you better give them every [16] document, I'm not saying this to you, but you better give every [17] document over that you would ever rely on if this case gets in [18] front of a jury, because if it comes up during the course of [19] that — in that context, you're not gonna get to use those [20] documents. And do you have every bit of information you had in [21] your pre-filing investigation, so that if I ask you how many [22] products are you accusing universally, in universe, you'll be [23] able to tell me, and

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that's —

[24] When you're doing it arbitrarily, that's the kind

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[1] of measure you use, and that's dangerous I found out because [2] I've ordered code and — shoot — when I got to where I just [3] didn't know what, I ordered the whole room. That's dangerous. [4] But then you know what happened? People worked it out, because [5] they sat down and said he ordered the whole room.

[6] Now I'm having a hard time. You're talking about [7] bluetooth. And I got another car, so they told me I can get a [8] phone in this one, because I could use this phone, and I've [9] been riding around for two months with this new car and I just [10] figured out why the phone doesn't ring, because I keep my phone [11] on vibrate, and my daughter had to tell me that. I am [12] dangerous in this stuff. So that's how much I really know.

[13] You're the experts, Ph.D.s, lawyers with long [14] experience. I'm gonna read the transcript. I'm not gonna [15] enter any Draconian Order here, but I think in the meantime [16] with that little bit of advice, if you could talk a little more [17] and present me with discreet problems rather than allow me to [18] weigh in in some large way you might be better off. If not, [19] I'll read the transcript. I have your other papers. If you [20] don't tell me in a week that you either solved it or you have [21] discreet problems or issues, I'll go to the danger level. [22] Isn't orange the worst or something, or red? I don't know what [23] it is. But I feel badly because I really know that I'm [24] being — and I mean this not in a pejorative sense, but what I

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[1] do is arbitrate because I don't really know.

[2] **MS. GRAHAM:** Your Honor, I have a question which [3] I hesitate — I recognize that this is a rather substantial [4] dispute that we're putting before the Court and I appreciate [5] Your Honor's comments that you're in a very difficult position [6] to try to resolve it.

[7] What I wonder is if, in fact, the parties don't [8] present something in a week, which frankly I doubt will happen [9] because we don't have the balance in this case. I think you [10] were speaking about the AdobeMacromedia case where you ordered [11] the room full of code and I remember that case and the reason [12] it worked out in the end is both sides wanted each other's [13] code, so when they got that Order, they realized that wasn't [14] workable, but the problem in this case is —

[15] **THE COURT:** It was a great decision.

[16] **MS. GRAHAM:** It worked. The problem with that [17] decision in this case is we don't have the balance. So they [18] want these millions of documents of ours, but they didn't [19] even — they bought this patent.

[20] **THE COURT:** I might send you to a knowledgeable [21] Special Master for this discreet issue, which I hate to do too.

[22] **MS. GRAHAM:** I was going to ask Your Honor if in [23] fact this dispute is still here in a week, which I would [24] expect, whether it might be possible to have it assigned to one

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[1] of our Magistrate Judges.

[2] **THE COURT:** Do you think they know more than I do [3] about what the technical issues are?

[4] **MS. GRAHAM:** No. That wasn't the reason at [5] all —

[6] **THE COURT:** Tell me the reason.

[7] **MS. GRAHAM:** — for my question. It was more the [8] question of recognizing the time that it takes. I'm not so [9] sure frankly that the technical aspect of it is so difficult, [10] but it's all of the shots that are flying back and forth.

[11] **THE COURT:** You have to weigh in on the technical [12] side of the request and the technical side of the [13] representation. You have to get your hands around that. And [14] in our court there's no special expertise in the magistrate [15] judges and I just had a conversation with one of them about a [16] Discovery dispute and they're trying to find out through quick [17] experience how you get through an issue just like this even [18] though you sat through a whole day of a hearing.

[19] **MS. GRAHAM:** Your Honor, perhaps the technical [20] issues are sufficient that a Special Master with technical [21] expertise —

[22] **THE COURT:** I think that's what Mr. Maersch is [23] saying. Did I misunderstand you?

[24] **MR. MAERSCH:** No. I mean, you know what? If

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[1] there's Special Master that can understand the patent at issue [2] and understand what documents and information you need to do [3] the analysis of whether that infringes and if a guy can get his [4] arms around that, that's our guy because as Mary points out, [5] they have no documents. So when you're Draconian, I'm the guy [6] who — when they change their mind, I'm the guy who gives up [7] his Thanksgiving weekend to chase a whole new group of people [8]

for a whole different new code. Like, Draconian is only one [9] side of this case, so if we can get a guy who can understand [10] what they need and why they already have it, that's our guy.

[11] **THE COURT:** Are you getting the same treatment? [12] Are you getting the same kind of breadth in the request in the [13] east Texas case?

[14] **MR. ROUTH:** Yes. And what they're telling you is [15] that we don't always have as much documentation because we do [16] things differently and we produced it all up front and, see, [17] where we come to and which you can't forget here —

[18] **THE COURT:** Is there a Master in that case?

[19] **MR. ROUTH:** There is a magistrate who's become [20] involved and just recently largely denied their Motion to [21] Compel, and it was because it was overbroad and we had already [22] given them everything. What you have to remember is —

[23] **THE COURT:** Let me ask this question: Are you [24] familiar with the east Texas case?

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[1] **MR. WITCOFF:** Yes.

[2] **THE COURT:** And I'm following up on what [3] Miss Graham said in the east Texas case. In the east Texas [4] case was the magistrate judge able to get their hands around [5] the issue you framed against ProMOS?

[6] **MR. ROUTH:** It was, but it was a different issue.

[7] **MR. WITCOFF:** It was a different issue.

[8] **MR. ROUTH:** We've produced all our design [9] information.

[10] **MR. WITCOFF:** And the document the magistrate in [11] Texas said was — we filed a Motion to Compel and we got all [12] the stuff we needed. After we filed the Motion the magistrate [13] said wow, this is moot now because you finally got this stuff.

[14] **MR. ROUTH:** He said a lot more than that.

[15] **MR. WITCOFF:** Yeah. One thing he said was we had [16] a similar request. It wasn't quite this broad. This is way [17] too broad. You have to focus down on the issues in the case [18] for us. The magistrate thought it was broader than we thought [19] it was. He said this is overbroad. You have to figure out [20] some way and that's all we're suggesting here. I'm trying to [21] work with Mr. Routh to figure out some way.

[22] **THE COURT:** All right. Here's what I'm gonna do. [23] I want to get you to a result. I'm a very practical kind of [24] person. Here's what I'm gonna do. I don't

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think anybody is

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[1] acting in bad faith. I think you have different perspectives [2] and you're trying to achieve those perspective goals and you're [3] running into a log-jam. Let me try this, because I'm gonna [4] follow up on Miss Graham's suggestion.

[5] We have two magistrate judges. One has a good [6] deal of experience but is beyond being scheduled. The other is [7] new to the court but very bright and might have a little more [8] time because, you know, there's that start-up where you have a [9] little more time because of the way things come to you.

[10] What I'm gonna do is I'm gonna send you to [11] Magistrate Judge Stark. I'm gonna refer you on this motion. [12] I'm gonna call it a motion. And I'm gonna ask him to see if [13] he'll hear you and give his best decision in the next two [14] weeks, and —

[15] MR. MAERSCH: So will we have a chance to brief [16] the issue? What we have right now is just their letter.

[17] THE COURT: I'm hoping you're gonna get to give [18] paper and also to be in front of him and let him hear both of [19] you in some detail and then I'm going — it might be three [20] weeks for a decision, but I'm gonna try and — I don't know his [21] schedule and I don't want to be presumptuous on his time, but [22] I'm gonna get you to him and I'm sure he'll give you an answer [23] and he'll be expeditious. Very hard worker. And then if [24] there's an objection to the decision I'll hear it right away

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[1] and I'll decide whether I'm going to change the decision or if [2] I think that we are failing in servicing one side or the other [3] because of your concern about Draconian results and your [4] concern about not being able to litigate fully, I may then send [5] you in the short run to a technical Special Master, someone [6] outside of our Special Master panel, and you might even have [7] somebody in mind who [8] has appeared in front of me that could get the answer.

[9] MR. ROUTH: Let me just express my frustration. [10] I had suggested we have this sent to a Special Master in [11] August; they opposed it. Why? Because they liked the process [12] they had in place then which kept us from getting information [13] and left us sitting in a Cleveland conference room as you'll [14] recall having to review their documentation on a single laptop [15] that they provided. We got past that and you understand the [16] issues now.

[17] If you read this deposition transcript,

all of [18] this "we're trying to be helpful" I think will go out the [19] window.

[20] THE COURT: I'll tell you what. Before I even [21] put that Order in I'm gonna read the deposition.

[22] MR. ROUTH: And I don't think necessarily [23] everybody on this side is behaving badly. What I think is —

[24] MR. MAERSCH: What does that mean? He keeps

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[1] saying —

[2] THE COURT: I don't know, but I'll read the [3] deposition and I'm gonna do what I said I'm gonna do. Actually [4] being in Cleveland, that's the Rock and Roll Hall of Fame.

[5] MR. ROUTH: It's not a bad place, particularly in [6] the summer, but it does not give us the information we needed. [7] Your Order of October 31st finally broke a log-jam and it [8] started getting the information.

[9] THE COURT: Don't argue anymore. You argued [10] yourself to ten of 6. And what I'm gonna do is I'll read the [11] deposition and I will send you to Magistrate Judge Stark and [12] I'm gonna call him tomorrow. Actually I'm in trial. I'll have [13] to do that on the lunch hour. Get him on a shortened schedule [14] hopefully without imposing on him and then depending on what he [15] decides, I'll either get you back or send you out.

[16] MR. WITCOFF: That sounds fine. If you'd like an [17] electronic version of the transcript so you can search for the [18] word cache, I'm happy to provide it.

[19] THE COURT: But I do want to say this in a [20] serious way. I have a little familiarity with the northern [21] District of California and how they handle these things because [22] I've had interaction with judges and magistrate judges there, [23] but I want you to understand, and particularly your clients, [24] that we realize both when you're pursuing someone and when

Page 146

[1] you're being pursued, that we can be very dangerous and cost [2] you a lot of money and a lot of time and a lot of angst and I [3] hope what I'm suggesting, following up on the suggestion, [4] avoids those kinds of things and if it isn't, the one thing you [5] can do is get in touch with me and tell me that it's [6] overburdening you or something that I can't envision right now, [7] because in the case — I don't remember the name of the case, [8] that's the case I think I might have done this twice —

[9] MS. GRAHAM: It was AdobeMedia. There was a [10] roomful of documents.

[11] THE COURT: That is not the — the effect of that [12] decision was not fully known by me and that's what I'm trying [13] to explain to you. That's why it's arbitrary and dangerous. [14] And then hear the effect of it and it's one of these, but it's [15] the only thing you knew to do to resolve what was being [16] presented to you. Now maybe it was okay there a little bit [17] because there was some balance on the pursuit, but, again, the [18] point I'm trying to give you is arbitrary and that's why [19] lawyers gotta work hard, because you know your case better than [20] we do and your clients better. But we'll try this and see if [21] it gets where you want to be, both sides.

[22] MS. GRAHAM: We appreciate that. Thank you.

[23] THE COURT: Thank you.

[24] THE CLERK: All rise.

Page 147

[1] (Court recessed at 5:52 p.m.).

Page 148

STATE OF DELAWARE )  
 : SS.  
NEW CASTLE COUNTY )  
 CERTIFICATION

I, CAROL DISERAFINO, Professional Reporter and Notary Public, do hereby certify that the foregoing record is a true and accurate transcript of my stenographic notes taken on December 13, 2007, in the above-captioned matter.

WITNESS my hand at Wilmington, Delaware, this 27th day of December, 2007.

CAROL DISERAFINO, CSR  
COURT REPORTER-NOTARY PUBLIC  
Cert. No. 182-PS



IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**PLAINTIFF PROMOS TECHNOLOGIES, INC.'S  
THIRD NOTICE OF 30(b)(6) DEPOSITION  
OF DEFENDANT FREESCALE SEMICONDUCTOR, INC.**

PLEASE TAKE NOTICE that pursuant to Rules 26 and 30 of the Federal Rules of Civil Procedure, plaintiff ProMOS Technologies, Inc. will take the deposition of defendant Freescale Semiconductor, Inc. ("Freescale"), through its corporate designee(s), before a person authorized to administer an oath at the offices of Ashby & Geddes, 500 Delaware Avenue, 8<sup>th</sup> Floor, Wilmington DE 19899, commencing at 9:30 a.m. on January 14, 2007, or at such other date and time as counsel for the parties shall agree, and continuing from day to day until completed. The deposition may be recorded by audio-visual means as well as stenographically.

Pursuant to Rule 30(b)(6) of the Federal Rules of Civil Procedure, Freescale shall designate one or more officers, directors or managing agents, or other persons who consent to testify on its behalf concerning the subjects identified in Attachment A, and if more than one person is so named, designate for each person the subject or subjects on which that person will testify.

ASHBY & GEDDES

*/s/ John G. Day*

---

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John G. Day (I.D. #2403)  
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[sajensen@hhlaw.com](mailto:sajensen@hhlaw.com)

Dated: December 19, 2007  
186810.1

**ATTACHMENT A**

1. The design, layout, architecture, and structure of each of the products listed in Exhibit 1 hereto (each, a “Freescale Product” and collectively, the “Freescale Products”).
2. The identity of any product that incorporates or includes any Freescale Product.
3. Code names, project designations, product families, part numbers and any other naming or grouping conventions used for Freescale Products.
4. The features, functionality, uses, and operation of each Freescale Product and of each product that incorporates or includes a Freescale Product, including but not limited to the processor(s), core(s), cache memory(ies), cache controller(s), memory(ies), memory subsystem(s), memory controller(s), memory management unit(s), register(s), buffer(s), bus(es), bus interface unit(s), and all other portions thereof.
5. User manuals, reference manuals, workbooks, datasheets, microarchitecture documents, block guides, specifications, and technical documents for each of the Freescale Products and/or the processor(s) or core(s) contained therein and/or each product that incorporates or includes a Freescale Product.
6. RTL documentation and circuit schematics for each Freescale Product and/or the processors contained therein.
7. Research, development, testing, and manufacturing of each Freescale Product, including the costs associated therewith.
8. Documents (such as communications, data sheets, promotional or marketing materials) and things (such as demonstration boards or other implementations) provided by Freescale to or used by Freescale with its customers or distributors concerning the use of each Freescale Product and/or each product that incorporates or includes a Freescale Product, including

those relating to the installation, operation, structure, function, implementation and use of each Freescale Product and/or each product that incorporates or includes a Freescale Product.

9. The date of first use, first public use, and first sale for each of the Freescale Products.

10. Any efforts by Freescale to change or modify any Freescale Product to design around any of the patents-in-suit, including all communications relating to such efforts.

11. Freescale's consideration of and views about the use of system or external memory, including but not limited to why it is essential and which of the Freescale Products either have system or external memory or are specifically designed to work with system or external memory.

12. Any prior art related to the patents-in-suit, including but not limited to designs developed within Motorola or Freescale.

13. Any contracts between Freescale and Motorola, whether written or otherwise, including but not limited to any assumption by Freescale of Motorola's liability for any past, present, or future claims of infringement.

14. The features, functionality, uses, and operation of cache memory incorporated or used by the Freescale Products, including but not limited to (a) the data path and connection between the cache memory and the executing units of the processor or core; (b) the data path and connection between the cache memory and the system, external or other memory; (c) data transmission between the cache memory and the executing units of the processor or core; (d) data transmission between the cache memory and the system, external or other memory; (e) the timing and the interdependency (or the lack of it) between (c) and (d), (f) circuits, functions, macros, programs or instructions related to the operation, function, or scheduling of cache memory, and (g) circuits, functions, macros, programs or instructions related to the operation, function, or

scheduling of transmission of data and control information to or from the cache memory and to or from any registers or buffers associated with the cache memory.

15. The similarities and differences between MC68060 and M68040, including but not limited to similarities and differences relating to (a) the data path and connection between the cache memory and the executing units of the processor or core; (b) the data path and connection between the cache memory and the system, external or other memory; (c) data transmission between the cache memory and the executing units of the processor or core; (d) data transmission between the cache memory and the system, external or other memory; (e) the timing and the interdependency (or the lack of it) between (c) and (d).

16. The features, functionality, uses, and operation of circuits that affect the operation of the cache memory incorporated or used by the Freescale Products, including but not limited to (a) cache controller, (b) control logic of the cache memory, (c) cache control registers (d) tag memory, (e) memory management unit, and (f) memory controller.

17. The features, functionality, uses, and operation of buffers, registers, or storage that affect the operation of the cache memory incorporated or used by the Freescale Products and/or any product that incorporates or includes a Freescale Product, including but not limited to data transmission and data path between such buffers, registers, or storage and (a) cache memory, (b) the executing units of the processor or core, and (c) system, external or other memory.

18. The features, functionality, uses, and operation of system, external or other memory incorporated or used by the Freescale Products, including but not limited to (a) data transmission and data path between system or external memory with Freescale Products, (b) the type, specification, and requirement for system, external or other memory so that it works with Freescale Products; (c) how and why Freescale Products use or operate with system, external or

other memory, and (d) the features of the Freescale products that are specifically designed to work with system, external or other memory.

19. Data coherency policy and snooping operation of the cache memory incorporated or used by the Freescale Products.

20. Joint research and development effort relating to Freescale Products with third parties, including but not limited to joint efforts with ARM Holding PLC ("ARM") and International Business Machines Corp. ("IBM").

21. Indemnification, insurance, guaranty, surety, or agreement under which any third party may be liable to satisfy part or all of a judgment of patent infringement relating to Freescale Products, including but not limited to any agreement between Freescale and Motorola, or any agreement between Freescale and ARM Holding PLC ("ARM").

22. The types and locations of documents relevant to each of the foregoing topics.

23. The similarities and differences among each of the Freescale Products, including similarities and differences relating to each of the foregoing topics.

**EXHIBIT 1**

603e  
e200  
e200z1  
e200z0  
e200z6  
e300  
e300c2  
e500  
e500v2  
e600  
dual e600  
G2  
G4  
8xx  
Coldfire v2  
Coldfire v3  
Coldfire v4  
Coldfire v4e  
Coldfire v5  
MC68060  
ARM 920T  
ARM926EJ-S  
ARM1136JF-S  
800 MHz/1GHz  
StarCore SC3400  
DSP extended core  
800 MHz/1GHz  
StarCore SC3400  
DSP core  
SC1400  
DSP 56300

any products that  
incorporate any of  
the foregoing cores

MPC7400  
MPC7450  
MPC604  
MPC604c  
MPC604ev  
MPC603

MPC603c  
MPC603ev  
MPC601  
MPC620  
MPC750  
MPC740  
MPC755  
MPC2605  
K2  
8569  
8526  
MPC5200  
MPC5200B

MPC5510

MPC5553

MPC5554

MPC5561  
MPC5565

MPC5566  
MPC5567  
MPC7410  
MPC7445  
MPC7455  
MPC7447  
MPC7457  
MPC7447A  
MPC7448  
MPC823  
MPC823E  
MPC850  
MPC852T  
MPC853T  
MPC855T  
MPC857DSL  
MPC857T  
MPC859DSL  
MPC859T  
MPC860  
MPC860P  
MPC862  
MPC866  
MPC870



MPC875  
MPC880  
MPC885  
MPC8247  
MPC8248  
MPC8250  
MPC8255  
MPC8260  
MPC8264  
MPC8265  
MPC8266  
MPC8270  
MPC8271  
MPC8272  
MPC8275  
MPC8280  
MPC8313  
MPC8313E  
MPC8321  
MPC8321E  
MPC8323  
MPC8323E  
MPC8343E  
MPC8347E  
MPC8349E  
MPC8358E  
MPC8360E  
MPC8533E  
MPC8540  
MPC8541E  
MPC8543E  
MPC8544E  
MPC8545E  
MPC8547E  
MPC8548E  
MPC8555E  
MPC8560  
MPC8567E  
MPC8568E

MPC8641

MPC8641D  
MCF5206e  
MCF5207  
MCF5208  
MCF5211

MCF5212  
MCF5213  
MCF5214  
MCF5216  
MCF5232  
MCF5233  
MCF5234  
MCF5235  
MCF5249  
MCF5270  
MCF5271  
MCF5272  
MCF5274  
MCF5274L  
MCF5275  
MCF5275L  
MCF5280  
MCF5281  
MCF5282  
MCF5307  
MCF5327  
MCF5328  
MCF5329  
MCF5372  
MCF5372L  
MCF5373  
MCF5373L  
MCF5407  
MCF5470  
MCF5471  
MCF5472  
MCF5473  
MCF5474  
MCF5475  
MCF5480  
MCF5481  
MCF5482  
MCF5483  
MCF5484  
MCF5485  
MC68060  
MC68LC060  
MC68EC060  
i.MX1  
(MC9328MX1)  
i.MX21

i.MX21S  
i.MX27  
i.MX31  
i.MX31L  
i.MXL  
i.MXS

MSC8144

MSC8144E

MSC8144EC  
MSC7110  
MSC7112  
MSC7113  
MSC7115  
MSC7116  
MSC7118  
MSC7119  
MSC7120

DSP56301

DSP56311

DSP56321

DSP56L307

**CERTIFICATE OF SERVICE**

I hereby certify that on this 19th day of December, 2007, I caused a true and correct copy of the foregoing Plaintiff ProMOS Technologies, Inc.'s Third Notice of 30(b)(6) Deposition of Defendant Freescale Semiconductor, Inc. to be served on the following individuals pursuant to the method described below:

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BY ELECTRONIC MAIL

*/s/ John G. Day*

\_\_\_\_\_  
John G. Day

## Discovery Documents

1:06-cv-00788-JJF Promos Technologies Inc. v. Freescale Semiconductor Inc.  
PATENT, PaperDocuments

U.S. District Court

District of Delaware

### Notice of Electronic Filing

The following transaction was entered by Day, John on 12/19/2007 at 4:45 PM EST and filed on 12/19/2007

**Case Name:** Promos Technologies Inc. v. Freescale Semiconductor Inc.

**Case Number:** 1:06-cv-788

**Filer:** Promos Technologies Inc.

**Document Number:** 101

#### Docket Text:

NOTICE to Take Deposition of Freescale Semiconductor, Inc. on January 14, 2007 (third notice) by Promos Technologies Inc..(Day, John)

#### 1:06-cv-788 Notice has been electronically mailed to:

Steven J. Balick sbalick@ashby-geddes.com, dfioravanti@ashby-geddes.com, jday@ashby-geddes.com, lmaguire@ashby-geddes.com, mkipp@ashby-geddes.com, nlopez@ashby-geddes.com, rgamory@ashby-geddes.com, tlydon@ashby-geddes.com

John G. Day jday@ashby-geddes.com, dfioravanti@ashby-geddes.com, dharker@ashby-geddes.com, lmaguire@ashby-geddes.com, mkipp@ashby-geddes.com, nlopez@ashby-geddes.com, rgamory@ashby-geddes.com, sbalick@ashby-geddes.com, tlydon@ashby-geddes.com

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James Walter Parrett, Jr jparrett@mnat.com

David L. Witcoff dlwitcoff@jonesday.com, edochring@jonesday.com

#### 1:06-cv-788 Notice has been delivered by other means to:

The following document(s) are associated with this transaction:

**Document description:**Main Document

**Original filename:**n/a

**Electronic document Stamp:**

**A0330**

[STAMP dcecfStamp\_ID=1079733196 [Date=12/19/2007] [FileNumber=492884-0  
] [a1da16e194660327fa050524d94929d777179b8b179fdaceb9b5781a52e8cab1798  
26917f9a89f9d38a1b502c79bc351f4213012be4f87196aecdbcb1f02c20b]]

**A0331**

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	:	
	:	
	:	
Plaintiff,	:	
	:	
v.	:	Civil Action No. 06-788-JJF
	:	
FREESCALE SEMICONDUCTOR, INC.,	:	
	:	
Defendant.	:	

MEMORANDUM OPINION and ORDER

Plaintiff, Promos Technologies, Inc., noticed a Rule 30(b)(6) deposition to depose Defendant, Freescale Semiconductor, Inc.'s, designee on topics related to the accused products. After some strained negotiations over topics and location, a videotape deposition was held on Friday, November 30, 2007 in Wilmington, Delaware ("the November 30th deposition"). Defendant produced an employee, Michael Dean Snyder ("Mr. Snyder"), as its designee in response to Plaintiff's notice.

Pursuant to the Court's discovery dispute procedure, Plaintiff has requested the Court to compel Defendant to reproduce Mr. Snyder and require him to respond to questions Plaintiff attempted at the November 30th deposition. Defendant opposes Plaintiff's application, contending the assertion of a work product privilege was appropriate.<sup>1</sup> Further, Defendant

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<sup>1</sup>Defendant has cited Sporck v. Piel, 759 F.2d 312, 316 (3d Cir. 1985), as support for counsel's work product privilege assertion. The Sporck case facts are clearly distinguishable from the facts here, specifically with regard to the questions

argues that it has provided Plaintiff with all the technical information Plaintiff is entitled to in the context of Plaintiff's infringement claims. Defendant contends Plaintiff should be focused only on the core of the accused products in seeking infringement discovery. The Court held a hearing on Thursday, December 13, 2007 ("the December 13th hearing"), and heard the arguments of counsel. Subsequent to the hearing, the Court reviewed the transcript and videotape of the November 30th deposition.

After reading the November 30th deposition transcript and viewing the videotape, the Court finds that Defendant's counsel obstructed the questioning of Mr. Synder by the improper assertion of work product privilege and interposing numerous objections unsupported by the rules of evidence. The Court need not list the errors of Defendant's counsel to demonstrate the conduct of counsel, because the inappropriateness of the objections is plain from a reading of the deposition transcript.<sup>2</sup>

For the reasons detailed above, the Court will order the following relief for Plaintiff: (1) all costs and attorneys' fees for the November 30th deposition and the re-deposition will be paid by Defendant's counsel; (2) a second deposition of Mr.

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asked, information sought and the fact that the deponent was a 30(b)(6) witness, not a party.

<sup>2</sup>For example, see pages 14, 15, 17, 18, 21, 22, 23, and 25.




Snyder will be held at a time and place designated by Plaintiff. This second deposition will not be charged to Plaintiff's allocation of depositions; (3) the topics of the second deposition will be as noticed and explained by Plaintiff at the November 30 deposition. In ordering the relief provided in item 3 above, the Court accepts the assertions made by Plaintiff at the December 13th hearing and the testimony of Mr. Snyder at the November 30th deposition. (Tr. p. 29).

NOW THEREFORE, IT IS HEREBY ORDERED that:

1. All costs and attorneys' fees for the November 30, 2007 deposition of Mr. Snyder, and the re-deposition shall be paid by Defendant's counsel.
2. A second 30(b)(6) deposition of Mr. Snyder shall be held at a time and place designated by Plaintiff. This second deposition will not be charged to Plaintiff.
3. The topics of the second deposition shall be as noticed and explained by Plaintiff at the November 30, 2007 deposition and the December 13, 2007 hearing.

December 20, 2007  
DATE

  
UNITED STATES DISTRICT JUDGE

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	C.A. No. 06-788-JJF
	)	
v.	)	
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**NOTICE OF RE-DEPOSITION OF  
DEFENDANT FREESCALE SEMICONDUCTOR, INC.  
PURSUANT TO RULE 30(b)(6)**

PLEASE TAKE NOTICE that Plaintiff ProMOS Technologies, Inc., will re-take the deposition of Defendant Freescale Semiconductor, Inc. ("Freescale"), pursuant to Fed. R. Civ. P. 30(b)(6) and the Court's December 20, 2007 Order, on the topics set forth in Exhibit A hereto, beginning at 9:30 a.m. on January 7, 2008, or on such other date as counsel may mutually agree, at the offices of Ashby & Geddes, 500 Delaware Avenue, 8th Floor, Wilmington, DE 19899. The deposition will be recorded stenographically and by videotape.

Pursuant to Rule 30(b)(6) of the Federal Rules of Civil Procedure, Freescale shall designate one or more officers, directors, managing agents, or other individuals to testify on its behalf as to matters known or reasonably known to Freescale regarding the topics set forth below. If more than one person is so designated, Freescale shall set forth in advance of the deposition the topic(s) or area(s) on which each designee will provide testimony.

**Definitions And Instructions**

1. The term "Freescale" shall mean Freescale Semiconductor, Inc., and any parent, subsidiaries, divisions, affiliates, and/or branches of the foregoing entities, any wholly or partly owned entities of the foregoing, any and all predecessors and successors thereof, and any entities

acting or purporting to act for or on behalf of, or who are subject to the direction or control of, any of the foregoing entities, including agents, employees, officers, directors, attorneys, consultants, contractors, subcontractors and representatives.

2. The term “document” will have the same meaning as that term is given in the “Definitions” section of ProMOS Technology Inc.’s First Request for Production of Documents served April 12, 2007.

3. The term Freescale Product(s) shall refer to the products and cores identified in Exhibit 1 hereto.

**Topics For Examination At Deposition**

1. Documents maintained by Freescale that evidence the design and/or features of cache memories contained in Freescale Products.

2. Documents maintained by Freescale that evidence how cache memories are accessed in and/or used in Freescale Products.

3. Documents maintained by Freescale that evidence the design and/or features of cache memory controllers contained in Freescale Products.

4. Features associated with cache memories contained in Freescale Products.

5. Features associated with cache memory controllers contained in Freescale Products.

6. Any website maintained by Freescale and any information set forth therein that discloses features associated with cache memories or cache memory controllers contained in Freescale Products.

ASHBY & GEDDES

*/s/ John G. Day*

---

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John G. Day (I.D. #2403)  
Lauren E. Maguire (I.D. #4261)  
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[sbalick@ashby-geddes.com](mailto:sbalick@ashby-geddes.com)  
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Telephone: (202) 637-5600  
Facsimile: (202) 637-5910

Dated: December 28, 2007

186941.1

**EXHIBIT 1**

603e  
e200  
e200z1  
e200z0  
e200z6  
e300  
e300c2  
e500  
e500v2  
e600  
dual e600  
G2  
G4  
8xx  
Coldfire v2  
Coldfire v3  
Coldfire v4  
Coldfire v4e  
Coldfire v5  
MC68060  
ARM 920T  
ARM926EJ-S  
ARM1136JF-S  
800 MHz/1GHz  
StarCore SC3400  
DSP extended core  
800 MHz/1GHz  
StarCore SC3400  
DSP core  
SC1400  
DSP 56300

any products that  
incorporate any of  
the foregoing cores

MPC7400  
MPC7450  
MPC604  
MPC604e  
MPC604ev  
MPC603  
MPC603e  
MPC603ev  
MPC601  
MPC620  
MPC750  
MPC740  
MPC755

MPC2605  
K2  
8569  
8526  
MPC5200  
MPC5200B  
MPC5510  
MPC5553  
MPC5554  
MPC5561  
MPC5565  
MPC5566  
MPC5567  
MPC7410  
MPC7445  
MPC7455  
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MPC7447A  
MPC7448  
MPC823  
MPC823E  
MPC850  
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REDACTED

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**FREESCALE'S OBJECTIONS TO PROMOS'S NOTICE  
OF RE-DEPOSITION PURSUANT TO RULE 30(b)(6)**

Freescale Semiconductor, Inc. ("Freescale") provides the following objections to the Notice of Re-deposition Pursuant to Rule 30(b)(6) served on Freescale by ProMOS Technologies, Inc. ("ProMOS") in the above-captioned matter, dated December 28, 2007.

**GENERAL BACKGROUND TO OBJECTIONS**

Freescale incorporates by reference herein, as if fully rewritten herein, each of the General Objections and Specific Objections set forth in its Objections to ProMOS's Second Notice of Deposition Pursuant to Rule 30(b)(6), which Freescale served on November 28, 2007 ("Original Objections"). Freescale objects to this Notice to the extent ProMOS attempts to use it to obtain testimony on subject matter broader than that set forth in ProMOS' Second Notice of Deposition, dated August 3, 2007 or the Court's Order, dated December 20, 2007. Finally, Freescale's Objections are intended to be consistent with the Court's Order, dated December 20, 2007.

**SPECIFIC OBJECTIONS**

**DEPOSITION TOPIC NO. 1:**

Documents maintained by Freescale that evidence the design and/or features of cache memories contained in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products at issue in this litigation. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness on January 9, 2008 at Jones Day's office in Washington D.C., responsive to this topic.

**DEPOSITION TOPIC NO. 2:**

Documents maintained by Freescale that evidence how cache memories are accessed in and/or used in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products at issue in this litigation. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness on January 9, 2008 at Jones Day's office in Washington D.C., responsive to this topic.

**DEPOSITION TOPIC NO. 3:**

Documents maintained by Freescale that evidence the design and/or features of cache memory controllers contained in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products at issue in this litigation. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness on January 9, 2008 at Jones Day's office in Washington D.C., responsive to this topic.

**DEPOSITION TOPIC NO. 4:**

Features associated with cache memories contained in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products at issue in this litigation. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale also objects to this topic to the extent it is not limited to the types of documentation Freescale generated for the cache-related sections of the Freescale products at issue in this litigation. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness on January 9, 2008 at Jones Day's office in Washington D.C., responsive to this topic.

**DEPOSITION TOPIC NO. 5:**

Features associated with cache memory controllers contained in Freescale Products.

**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products at issue in this litigation. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters reasonably related to the claims of the Chan patents. Freescale also objects to this topic to the extent it is not limited to the types of documentation Freescale generated for the Freescale products at issue in this litigation. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness on January 9, 2008 at Jones Day's office in Washington D.C., responsive to this topic.

**DEPOSITION TOPIC NO. 6:**

Any website maintained by Freescale and any information set forth therein that discloses features associated with cache memories or cache memory controllers contained in Freescale Products.

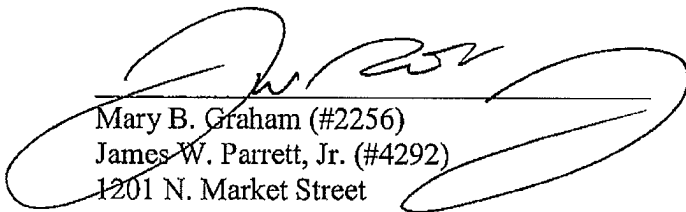
**OBJECTIONS TO DEPOSITION TOPIC:**

Freescale objects to this topic to the extent it is not limited in scope to the Freescale products at issue in this litigation. Freescale also specifically objects to this topic because it is overly broad and lacks reasonable particularity with respect to any parameters

reasonably related to the claims of the Chan patents. Freescale also objects to this topic to the extent it is not limited to the types of documentation Freescale generated for the cache-related sections of the Freescale products at issue in this litigation. Freescale further objects to this topic to the extent it calls for claim constructions or the correspondence between claim terms and Freescale products.

Without waiving any and subject to all of the foregoing objections and pursuant to the parties' agreement, Freescale will produce a witness on January 9, 2008 at Jones Day's office in Washington D.C., responsive to this topic.

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Dated: January 8, 2008  
1376970

**CERTIFICATE OF SERVICE**

I hereby certify that on January 8, 2008, true and correct copies of the foregoing were caused to be served upon the following individuals in the manner indicated:

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**Re: *ProMOS Technologies, Inc. v. Freescale Semiconductor, Inc.* C.A. No. 06-788 (JJF)**

ProMOS Technologies, Inc. (“ProMOS”) respectfully objects to the motion of Freescale seeking a general extension of fact discovery until February 29 and a protective order regarding three depositions, because:

1. Granting the motion would reward Freescale for its discovery misconduct and give it precisely the type of delay that it has been seeking in an effort to ensure that an action it filed against ProMOS in Texas remains on a schedule ahead of this action. We will summarize below Freescale’s conduct, which has resulted in Orders from Judge Farnan granting ProMOS motions to compel and imposing sanctions.
2. Neither a general extension of discovery nor a protective order is necessary. Discovery can and should be completed on the schedule set by the Court, subject to a few limited and specific exceptions that ProMOS already has accepted to accommodate the schedules of Freescale witnesses. Additional discovery beyond the current January 21 cutoff also may be needed, of course, if Freescale (or ProMOS for that matter) fails to meet other discovery obligations before that date.

**Background and Nature of this Action and the Related Texas Action**

After two years of discussing a possible cross-license, on December 6, 2006, Freescale surprised ProMOS by filing a lawsuit in the United States District Court for the Eastern District of Texas (the “Texas action”). Two weeks later, on December 22, 2006, ProMOS filed a lawsuit against Freescale, but chose to bring its claims here in Delaware (the “Delaware action”). In both actions, the plaintiff claims that its opponent infringes patents that had been the subject of the pre-litigation cross-licensing discussions.

The Texas Court entered a scheduling order with a trial date set for May 2008 and a cut-off for completion of fact discovery on *the later of* December 14, 2007 *or* 37 days after the Court issues its Markman ruling. A Markman hearing was held in Texas in October, but the Texas Court has not yet issued a ruling. Accordingly, at the present time, there is no firm deadline for the close of fact discovery in the Texas action, and *the earliest* fact discovery will close in that case is now late February 2008.

Judge Farnan set firm dates both for trial of the Delaware action in June 2008 and for the close of fact discovery on January 21, 2008 (effectively January 22, as the 21<sup>st</sup> is a holiday). At the initial Scheduling Conference, Freescale’s Counsel asked Judge Farnan to agree that if the schedule in Texas was delayed, then the schedule and trial date in the Delaware action would be extended. Judge Farnan specifically rejected that request and advised that the Delaware schedule would not be changed to accommodate Freescale’s desire to go to trial in Texas first. Absent the extension now sought by Freescale, fact discovery in this action will now be completed well in advance of fact discovery in the Texas action.

In the Texas action, ProMOS has met its discovery obligations. Although Freescale filed a scatter-shot motion to compel, Magistrate Judge Bush overruled most of the motion, ruling, *inter alia*, that Freescale’s discovery requests were “patently overbroad,” “illusive,” and would require “an absurd waste of resources and time,” and that its motion was “nothing more than patent hyperbole” that “left the Court to guess on what

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matters are in dispute between the parties.” See Ex. 1.<sup>1</sup>

In the Delaware action, by contrast, Freescale has stonewalled discovery repeatedly, which has resulted in two Orders by Judge Farnan compelling production of documents and/or a deposition witness and imposing monetary sanctions. Judge Farnan further has expressly reserved decision on ProMOS’s request for further attorneys’ fees and costs “pending the Court’s further review of [Freescale’s] conduct.” Given the complexity of the issues, Judge Farnan has referred future discovery motions to the Special Master, along with Freescale’s motion to extend the fact discovery deadline.

### **Overview of ProMOS’s Claims Against Freescale**

ProMOS’s Complaint alleges that Freescale infringes three ProMOS patents: U.S. Patent No. 5,488,709 (“the ‘709 patent”), U.S. Patent No. 5,732,241 (“the ‘241 patent”), and U.S. Patent No. 6,670,267 (“the ‘267 patent”). The ‘709 and ‘241 patents involve “cache” memory, a form of high-speed computer memory that stores frequently-used data so that the CPU can have faster access to it (these two patents are referred to collectively as the “Chan” patents, as Alfred Chan is the inventor on both). The parties’ discovery disputes have focused primarily on Freescale products accused of infringing the Chan patents.

ProMOS has accused approximately 150 Freescale products of infringing the Chan patents, each of which includes one or more cache memory systems. Most of those products are designed around one of 12 so-called “cores” that Freescale uses in its products. A “core” is the portion of the semiconductor chip that includes the CPU and other circuitry, while outside the core there may be additional circuitry (including cache-related circuitry) necessary to the specific product. Because the Chan patents are circuit patents, ProMOS focused its initial discovery on obtaining circuit diagrams or schematics for the accused Freescale products. In response, Freescale’s counsel repeatedly advised ProMOS (and later the Court) that it does not maintain circuit schematics. Instead, Freescale stated that it designs circuits using “RTL code”. ProMOS has now spent many months attempting to obtain from Freescale the RTL code and associated documentation needed to show in detail the structure and functioning of the accused products.

### **Overview of the History of Discovery in this Action**

#### **1. Judge Farnan’s October 31 Order compelling Freescale to produce complete “RTL documentation” as well as circuit diagrams and a 30(b)(6) deponent on technical documents**

Early in the case, ProMOS served document requests seeking the basic technical documents necessary to present its infringement case at trial, including circuit diagrams or schematics, specifications, manufacturing drawings, and microarchitectural documents relating to the products accused of infringing the cache memory patents. For months, Freescale dragged its feet on producing documents reflecting the design or layout of its accused products. Accordingly, in late June, ProMOS told Freescale that it wanted a Rule 30(b)(6) deposition to obtain basic information on the technical documentation maintained by Freescale. ProMOS then served a notice on July 3, 2007 setting a deposition for July 20. On July 16, 2007, Freescale notified ProMOS that it would not produce any witnesses on July 20. It also refused to provide alternate dates anytime during the month of July, asserting that it intended to identify up to 20 different witnesses in response to the notice. It further refused to provide any witness in Delaware, even though Freescale had filed counterclaims in Delaware and ProMOS had noticed the deposition for Delaware.

As of August 20, 2007, fully four months after ProMOS served its initial document requests, the only “technical” documents produced by Freescale regarding the Chan patents were publicly-available user manuals and reference manuals (available on Freescale’s website) and a small handful of Motorola workbooks, provide only very general information relating to circuit design. Moreover, Freescale still had

<sup>1</sup> At a December 13, 2007 hearing before Judge Farnan, Freescale’s counsel argued that the lack of “balance” it perceived between discovery in this action and in the Texas action somehow justifies a different approach to the discovery required of Freescale in this action. Ex. 2 at 139, 141-42. There is no basis for that argument.

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not made any witnesses available in response to ProMOS's Rule 30(b)(6) deposition notice. Accordingly, on August 23, 2007, ProMOS filed a motion to compel production of technical documents, as well as a witness (or witnesses) in response to ProMOS's July 3 Rule 30(b)(6) notice.

In late August, after ProMOS had filed its motion to compel, Freescale offered to make available for inspection the "RTL code" for certain of its products. However, Freescale insisted that the RTL would be available to ProMOS only on a single laptop computer at the offices of Freescale's counsel in Cleveland. Moreover, Freescale would not allow ProMOS to print any documents. As a ProMOS expert explained, that arrangement denied ProMOS meaningful access to the RTL. See Ex. 3, Wedig Declaration. ProMOS also asked for discovery disputes to be referred to a Magistrate or Special Master to expedite their resolution, but Freescale opposed that request.

In its opposition to ProMOS's motion to compel, filed September 10, Freescale represented, as it had repeatedly before and has since, that it "typically does not generate" circuit diagrams or schematics and that "[t]o the extent circuit diagrams and schematics exist, those documents have already been produced to ProMOS." Ex. 4. As described below, those representations were not accurate.

On October 31, 2007, Judge Farnan granted ProMOS's motion to compel, finding that "Defendant's responses have been insufficient with regard to all issues presented by plaintiff" and rejecting all of Freescale's arguments. See Ex. 5. The Court ordered that by November 20 Freescale must (a) generate and produce the requested circuit diagrams to plaintiff, and (b) provide plaintiff electronic copies of the RTL documentation. Id. Judge Farnan also ordered Freescale to "produce a Rule 30(b)(6) witness for deposition as noticed by plaintiff in the District of Delaware," and he reserved decision on whether to grant ProMOS's request for costs and attorneys' fees as a sanction for Freescale's discovery misconduct. Id.

## **2. Freescale's continued failure to provide technical documents or an adequate 30(b)(6) deposition**

### **a. Freescale's belated production of RTL but continued failure to produce documents needed to meaningfully use the RTL or an adequate 30(b)(6) deposition to identify technical documents**

Notwithstanding Judge Farnan's October 31 Order, Freescale did not meet its discovery obligations. When Freescale informed ProMOS that it would be unable to produce RTL for all of its products by November 20, ProMOS worked cooperatively and agreed to permit Freescale to produce the RTL on a rolling basis and to defer the production of any circuit diagrams until after ProMOS's experts had the chance to analyze the RTL. ProMOS also agreed that Freescale would not need to produce RTL for every one of its products, especially if some RTL was difficult to access, as long as it produced RTL for most of its products.

Although Freescale produced RTL for many accused cores and products on a rolling basis by December 5, it continued to withhold critical technical documents necessary to make meaningful use of the RTL, including but not limited to microarchitecture documents. As explained in the attached Declaration of Charles Neuhauser, microarchitecture documents provide definitions of coded signal names used in the RTL materials as well as an overview of the design of the product. Ex. 6 (Neuhauser Decl.). In essence, the microarchitecture documents serve as a roadmap and decoder for meaningful use of the RTL. Freescale also continued to maintain that it did not have any circuit schematics for relating to the accused products or processors.

On November 30, Freescale's designee for the Rule 30(b)(6) ordered by Judge Farnan testified that, contrary to its prior representations, Freescale does indeed maintain hand-generated schematics relating to the circuit design of the accused products. Ex. 7 (Snyder Dep. at 119-21, 146-152). Specifically, Freescale's designee, Mr. Snyder, testified that Freescale maintains two forms of schematics: (i) "library schematics" that relate to "a general piece of IP and not necessarily associated with a given product," and (ii) "custom schematics" that are created for a specific product. Id. at 117-20. Other than providing general testimony about the existence of the circuit schematics, however, Freescale's designee was unable to answer even basic questions about what types of technical documents – including microarchitecture documents – are maintained by Freescale.

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The witness's inability to answer basic questions about Freescale's technical documents was exacerbated by Freescale's counsel repeated instructions not to answer questions. Ex. 7.

**b. ProMOS's second motion to compel an adequate 30(b)(6) deposition**

On December 7, after ProMOS's efforts to address deficiencies of the November 30 deposition with met with indifference from Freescale's counsel, ProMOS filed an emergency motion requesting that Freescale be required to produce an adequately-prepared corporate designee on the document-related topics that had been noticed over five months earlier. Ex. 8. And on December 10, ProMOS's counsel sent an email to Freescale's counsel listing continuing deficiencies in Freescale's document production revealed by Mr. Snyder's first deposition, including Freescale's failure to produce the hand-generated schematics and critical microarchitecture documents. Ex. 9. This e-mail gave Freescale specific notice of many of the discovery issues that remain for resolution by the Special Master.

**c. Assurances Offered by Freescale's Counsel at the December 13 Hearing**

On December 13, following a Markman hearing, Judge Farnan heard oral argument on ProMOS's discovery motion. Ex. 2. At the hearing, Freescale's counsel made the following representations to Judge Farnan that are relevant to the ongoing discovery disputes:

1. Freescale's counsel repeatedly assured the Court that Freescale had produced *all* microarchitectural documents: "[I]n their e-mail to you they make this representation that all of these microarchitectural documents have not been produced. It's not true. We produced all those microarchitectural documents for the cores." Ex. 2 at 118:15-19; see also 123:19-22; 125:5-8; 129:5-9. Freescale also indicated that such documents -- referred to as "block guides," "implementation guide[s]," or "resource guide[s]" -- exist for all the cores and for "the caches memories and the cache controllers, including the L2 cache." *Id.* at 118:4-10; 135:3-7; see also 120:15-19; 125:5-8. As discussed below, however, only 3 days ago, Freescale produced significant additional microarchitecture documents -- including for cache memories and cache controllers -- and it has acknowledged that even more such documents have yet to be produced. Ex. 10; Ex. 11 (Snyder II) at 96, 179-80, 182-85, 198-99, 202.
2. Freescale's counsel also repeatedly represented that Freescale does not maintain schematics that relate to circuit design, and instead only maintains "library schematics" at the single transistor or gate level: "These schematics that they're talking about have nothing to do with our circuit designs at all. These are what's called library elements....[They have] nothing to do with the design of our products. It has nothing to do with whether there's a cache or a cache controller or what registers or what circuits." Ex. 2 at 121:2-7; see also 120:5-14; 124:7-10; 125:9-20; 126:9-12 (representing that the only schematics maintained by Freescale are analogous to a photo of a two-by-four or a brick in trying to understand the design of a house). As described below, however, Mr. Snyder has since testified that Freescale maintains design-related schematics and that some accused products were designed using schematics only, rather than RTL. Ex. 11 at 127-131, 153-156, 167-208.
3. With regard to Freescale's failure to prepare Mr. Snyder for the November 30 deposition, Freescale's counsel asserted "[t]his guy is an architect of all of our cores and he knows exactly what goes into the cores for the cache and the cache controller and he's been doing this for 20 years." Ex. 2 at 117:4-7. Mr. Snyder has since testified that he was an architect on only a single existing Freescale core. Ex. 11 at 47-49.
4. Freescale also represented to the Court that all of the caches for all of the products are located inside the core and therefore that documents relating to circuitry outside of the core are irrelevant: "The stuff that's relevant for this case, *the stuff that's in a little area of a chip that we call the core, it has all the caches, it has all the registers, it has all the signals that they told you that they need.*" Ex. 2 at 117:17-20. Mr. Snyder has since testified that at least one of the accused products has a cache outside of the core. Ex. 11 at 54. He also testified that whether or not the cache is considered to be inside or outside of the core depends on the manner

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in which one uses the term “core,” which he explained is a loose term. Id. at 16-21. Freescale’s counsel further represented that the parties had agreed that Freescale would only have to produce RTL materials for the cores rather than the entire product and for representative products rather than all products, but that ProMOS had “reneged on both agreements.” Ex. 2 at 126-27. The e-mails attached hereto as Ex. 12 refute this assertion.

Based on Freescale’s assurances on the status of its production of technical documents – which stood in marked contrast with ProMOS’s understanding of what had been produced to date – Judge Farnan stated he was inclined to refer these issues to a Magistrate or Special Master who could devote the time needed to get to the bottom of what has and has not been produced by Freescale and when it was produced.

### **3. Judge Farnan’s Order Sanctioning Freescale for failing to provide an adequate 30(b)(6) deposition**

On December 20, having reviewed both the transcript and DVD of the first Snyder deposition on the Rule 30(b)(6) topics regarding Freescale’s technical documents, Judge Farnan entered an Order finding that “Defendants’s counsel obstructed the questioning of Mr. Snyder by the improper assertion of work product privilege and interposing numerous objections unsupported by the rules of evidence,” and noting that “the inappropriateness of the objections is plain from a reading of the deposition transcript.” Ex. 13 at 2. Accordingly, Judge Farnan ordered Freescale to make Mr. Snyder available for another deposition and ordered Freescale to pay costs and attorneys’ fees associated with the November 30 deposition and a second deposition. Id.

### **4. Recent discovery – including a deposition and documents received this week – confirm that Freescale has continued to withhold technical documents critical to ProMOS’s claims**

#### **a. ProMOS’s December 20 e-mail identifying specific holes in Freescale’s document production**

Having received no response to the December 10 e-mail, and having heard the statements made on December 13 that Freescale was “not holding anything back” in producing technical documents Ex. 2, at 135:7), we again reviewed the documents received in discovery and then wrote to Freescale’s counsel on December 20, Ex. 14. In that e-mail, we provided examples of specific micro-architecture documents that clearly existed but had not been produced by Freescale. Due to page and time limits we highlight here three illustrations of the kinds of holes in Freescale’s document production raised in the December 20 e-mail: (i) Freescale had produced 4 chapters of a “Microarchitec-ture Specification” for the e300 core, but it had failed to produce the majority of the chapters; (ii) Freescale had produced a microarchitectural document entitled “V’ger Memory Subsystem Unit Workbook,” but with several hundred pages missing; and (iii) Freescale had failed to produce any meaningful microarchitecture documents for its products that use an ARM core. The December 20 e-mail also continued to raise the issue of circuit schematics that had not been produced. A further meet and confer on January 4 did not resolve these important issues; indeed, it only raised new ones. See Ex. 15.

#### **b. Freescale’s January 8 production of new circuit schematics and microarchitectural documents**

After the close of business on January 8 – the evening before the court-ordered second deposition of Mr. Snyder – Freescale produced 3,000 pages of new technical documents. Ex. 10. Included were the “missing” chapters from the “Microarchitecture Specification” for the e300 identified above, which revealed that one of the chapters previously withheld by Freescale, Chapter 20, is entitled “Data Cache Control” and is critical to making meaningful use of the RTL for the e300 and to ProMOS’s infringement contentions. Another document produced January 8, the entire “V’ger Memory Subsystem Unit Workbook,” revealed that the several hundred pages previously withheld by Freescale relate to the L2 and L3 cache memories and again are critical to making meaningful use of the RTL for the e600 core and related Freescale products. Freescale also produced “implementation guides” (which counsel had told Judge Farnan on December 13 were microarchitectural documents) for ARM cores and two new schematics, one of which had RTL materials attached. These are precisely the types of documents that ProMOS has been seeking for months and that Freescale has said either were already produced or did not exist.



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January 11, 2008  
Page 6

As summarized in the attached Declaration of Dr. Charles Neuhauser, Ex. 6, Freescale's delay in producing these documents (and continued failure to produce others) has significantly delayed the expert analysis of Freescale's RTL and, as a result, cost ProMOS substantial time and money.

**c. The second Rule 30(b)(6) deposition of on technical documents withheld from production**

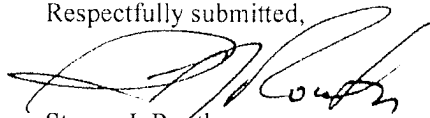
On January 9, Freescale re-produced Mr. Snyder, as required by Judge Farnan's December 20 Order. Mr. Snyder testified that during the first week of January 2008, he spoke for the first time in preparation for his role as a 30(b)(6) designee with various Freescale employees and learned that Freescale maintains schematics for many of its products, including schematics relating to at least the following cache-related circuitry: data cache arrays, cache tag arrays, data RAMs, L1 cache, L1 cache data tag, and L1 cache instruction status. Ex. 11 at 120, 154-180. That testimony contradicts what Freescale previously has told Judge Farnan and us. See, e.g., Ex. 2 at 121 ("the schematics they're talking about ... ha[ve] nothing to do with whether there's a cache or a cache controller"). Mr. Snyder further testified that, contrary to its prior representations, Freescale maintains a number of microarchitecture documents that it has not yet produced, including block guides, architectural definition documents, System-on-Chip guides, and integration guides. Ex. 11 at 62-64, 95-107, 130-33, 156-206. Mr. Snyder also testified that Freescale had not yet determined whether additional microarchitecture documents existed for some of the accused products. *Id.* at 96, 179-202.

**5. The current status of outstanding discovery, including depositions recently noticed and scheduled by the parties**

**a. ProMOS noticed depositions.** On December 19 and 21, ProMOS served its Third and Fourth Rule 30(b)(6) notices seeking testimony on Freescale's accused products with respect to the Chan patents (Third notice) and the Fortin patent (Fourth notice). ProMOS did not serve those notices earlier because it needed technical documents from Freescale. By serving the notices over a month before the discovery deadline, ProMOS gave Freescale sufficient time to identify and produce knowledgeable witnesses. To the extent Freescale has indicated it has difficulties producing a witness for deposition before January 22, ProMOS has acted cooperatively. Before the motion for extension and for protective order was filed, the parties already had identified January 22 and 23 as the dates for the Fourth notice on Fortin-related topics. Moreover, Freescale has apparently identified the witnesses it intends to produce on the Third notice, and ProMOS is just awaiting the identification of dates on which those witnesses can be made available for deposition. On January 2, ProMOS served a Fifth Rule 30(b)(6) notice on damages-related topics and Freescale offered January 21 and 22 or January 24 and 25 as dates on which designated witnesses could be made available. Thus, ProMOS has been flexible in allowing Freescale to produce witnesses after January 22, if they are not available before then, and there is no need for a general extension of the discovery cutoff for these three depositions. *See* Ex. 16 (e-mail correspondence relating to deposition scheduling).

**b. Freescale noticed depositions.** It appears that the real reason Freescale seeks an extension of the discovery deadline is to allow for certain of its own belatedly-noticed depositions of third parties to move forward. On December 27, 2007, Freescale served 7 Rule 45 subpoenas on companies from which Freescale apparently seeks information to support an invalidity defense on the Chan patents. On January 3, 2007, Freescale served two additional subpoenas, one for Alfred Chan, the inventor on the Chan patents, and another on Sun Microsystems. And on January 7, Freescale served six Rule 45 subpoenas on individuals involved in the prosecution of the Chan patents. There is no reason why Freescale could not have served all 15 of these subpoenas earlier in the discovery period and its delay should not be rewarded with a general extension of the discovery deadline to permit this belatedly-sought discovery.

Respectfully submitted,



Steven J. Routh

The Hon. Vincent J. Poppiti, Special Master  
January 11, 2008  
Page 7

cc: Counsel for Freescale



"JDay"  
<jday@ashby-geddes.com>

01/16/2008 03:43 PM

To "Poppiti, Vincent J." <Poppiti@BlankRome.com>

cc "David, Carrie" <david-c@BlankRome.com>, "LeVan, Mary" <LEVAN@Blankrome.com>, <SBalick@domain.invalid>, "LMaguire" <lmaguire@ashby-geddes.com>, <sjrouth@hhlaw.com>, <sajensen@hhlaw.com>, <smcook@hhlaw.com>, <kswillen@hhlaw.com>, <whwright@hhlaw.com>, <mgraham@mnat.com>, <mbgeservice@mnat.com>, <jparrett@mnat.com>, <dlwitcoff@jonesday.com>, <kpferguson@jonesday.com>, <jmichalik@jonesday.com>, <msblackman@jonesday.com>, <slgarrett@jonesday.com>, <f.dfeeling@jonesday.com>, <siebman@siebman.com>

Subject RE: ProMOS Technologies, Inc. v. Freescale Semiconductor, Inc., C.A. No. 06-788-JJF

Dear Judge Poppiti:

For the Special Master's convenience, I have attached two e-mails that lead counsel for ProMOS sent to Freescale's counsel today in the above matter. Because both e-mails relate to the issues that are scheduled to be discussed during tomorrow's telephone hearing, we thought it might be useful for Your Honor to have the opportunity to review them before the hearing.

Respectfully,

John G. Day

**From:** JDay

**Sent:** Friday, January 11, 2008 5:02 PM

**To:** 'Poppiti, Vincent J.'

**Cc:** David, Carrie; LeVan, Mary; SBalick; LMaguire; sjrouth@hhlaw.com; sajensen@hhlaw.com; smcook@hhlaw.com; kswillen@hhlaw.com; whwright@hhlaw.com; mgraham@mnat.com; mbgeservice@mnat.com; jparrett@mnat.com; dlwitcoff@jonesday.com; kpferguson@jonesday.com;

A0360

jmichalik@jonesday.com; msblackman@jonesday.com; slgarrett@jonesday.com;  
f.dfeeling@jonesday.com; siebman@siebman.com

**Subject:** RE: ProMOS Technologies, Inc. v. Freescale Semiconductor, Inc., C.A. No. 06-788-JJF

Dear Judge Poppiti:

I have attached ProMOS's response to Freescale's Motion to Extend the Discovery Deadline in this matter, with exhibits to follow by separate email. We also will be hand-delivering three hard copies for you shortly.

Respectfully,

John G. Day

**From:** Poppiti, Vincent J. [mailto:Poppiti@BlankRome.com]

**Sent:** Thursday, January 10, 2008 4:47 PM

**To:** JDay

**Cc:** David, Carrie; LeVan, Mary; SBalick; LMaguire; sjrouth@hhlaw.com; sajensen@hhlaw.com; smcook@hhlaw.com; kswillen@hhlaw.com; whwright@hhlaw.com; mgraham@mnat.com; mbgeservice@mnat.com; jparrett@mnat.com; dlwitcoff@jonesday.com; kpferguson@jonesday.com; jmichalik@jonesday.com; msblackman@jonesday.com; slgarrett@jonesday.com; f.dfeeling@jonesday.com; siebman@siebman.com

**Subject:** RE: ProMOS Technologies, Inc. v. Freescale Semiconductor, Inc., C.A. No. 06-788-JJF

Dear Mr. Day,

Thank you for advising that ProMOS will be able to respond to Freescale's Motion to Extend the Discovery Deadline not later than close of business tomorrow. Since I have not yet established the procedures that will govern the handling of discovery disputes, your answer should not exceed 6 pages. In turn ProMOS may file a reply not to exceed 6 pages not later than 12 o'clock noon on Monday, January 14, 2008.

Mary Levan will advise re time for the hearing as soon as we hear from counsel for Freescale.

Yours very truly-vjp

**Vincent J. Poppiti | Partner | Blank Rome LLP**

Chase Manhattan Centre, 1201 Market Street, Suite 800 | Wilmington, DE 19801

Phone: (302)425-6410 | Fax: (302)428-5132 | Email: [Poppiti@BlankRome.com](mailto:Poppiti@BlankRome.com)

**From:** JDay [mailto:jday@ashby-geddes.com]

**Sent:** Thursday, January 10, 2008 3:54 PM

**To:** Poppiti, Vincent J.

**Cc:** Dube, Dale R.; Schneider, Megan; David, Carrie; LeVan, Mary; SBalick; LMaguire; sjrouth@hhlaw.com; sajensen@hhlaw.com; smcook@hhlaw.com; kswillen@hhlaw.com; whwright@hhlaw.com; mgraham@mnat.com; mbgeservice@mnat.com; jparrett@mnat.com; dlwitcoff@jonesday.com; kpferguson@jonesday.com; jmichalik@jonesday.com; msblackman@jonesday.com; slgarrett@jonesday.com; f.dfeeling@jonesday.com; siebman@siebman.com

A0361



**Subject:** ProMOS Technologies, Inc. v. Freescale semiconductor, Inc., C.A. No. 06-788-JJF

Dear Judge Poppiti:

I am local counsel for ProMOS Technologies, Inc., the plaintiff in this matter. I write in response to your email yesterday directing ProMos to respond by close of business tomorrow to Freescale's motion for an extension of the fact discovery deadline, and Mary LeVan's follow-up email inquiring about the parties' availability for a teleconference with the Special Master on the afternoon of either Monday January 14, 2008 or Tuesday January 15, 2008. ProMOS would be pleased to respond to Freescale's motion by close of business tomorrow, and respectfully requests leave to exceed the Special Master's normal four-page limit for responsive letters to allow ProMOS the opportunity to provide you with a brief history of some previous discovery issues in this matter that will provide some useful and necessary context in weighing Freescale's request. With respect to our availability for a teleconference early next week, ProMOS's lead counsel, Steven Routh, has a previously-scheduled court proceeding on Monday January 14, 2008, but is available at the Special Master's convenience on Tuesday January 15, 2008 and Wednesday January 16, 2008.

Respectfully,

John G. Day (I.D. No. 2403)  
Ashby & Geddes  
500 Delaware Avenue, 8th Floor  
Wilmington, DE 19806  
(302) 654-1888

Attorneys for ProMOS Technologies, Inc.

Message from "Routh, Steven J." <SJRouth@HHLAW.com> on Wed, 16 Jan 2008 13:02:35 -0500 -----

<Leozino Agozzino" <lagozzino@JonesDay.com" :To  
"Karl M Maersch" <kmmaersch@JonesDay.com>, "David L. Witcoff"  
, <dlwitcoff@JonesDay.com>, "Wright, William H." <WHWright@HHLAW.com>  
".Jensen, Sten A." <SAJensen@HHLAW.com>, "Cook, Susan M" :cc  
<SMCook@HHLAW.com>

RE: FSL/PM - Depositions **Subje**  
:ct

Leo: Thank you for arranging the individual deposition of Mr. Snyder on 1/23, the day before other Chan-related depositions on our Third 30(b)(6) Notice are now scheduled (i.e., Nash on 1/24, and an as-yet unknown possible deponent on 1/25). It makes sense for us to go forward with these depositions next week, and so we will. Based on the January 9 testimony of Mr. Snyder that Mr. Nash is Freescale's "internal expert" on the MPC55xx products, and Freescale's earlier representations that the accused MPC55xx products use the e200z1 and e200z6 cores, we understand that Mr. Nash will be offered as FS's designee to respond to questions within the topics in the Third Rule 30(b)(6) Notice with respect to those products and the e200 cores. Please confirm or correct that understanding ASAP.

We are not in a position to know whether we have "sufficient documents" to take and complete the deposition or to guaranty that there will not be a need for a further deposition of Mr. Nash if his testimony reveals that Freescale is continuing to withhold documents that are relevant to the cores and products on which he is designated to testify. That is because we do not know what additional documents Freescale may be continuing to withhold, and we likely will not know that for sure until we take the depositions of Mr. Nash and perhaps others (this is the "chicken-and-egg" situation that I have described in discussions with both David Witcoff and you). At his second deposition last week, Mr. Snyder was not able to say what

REDACTED

- said is related to the e200z6 core)
- DFT guides for z650n3 core complex
- Verification guides for z650n3 core complex
- SOC guide(s) for products using the e200 core
- Verification Plan(s) for products using the e200 core
- SRAM Integration Guide(s) for products using the e200 core
- Custom Library Schematics for products using the e200 core

When I spoke with David Witcoff and Karl Maersch on January 4 about microarchitectural documents that Freescale had already produced for the e200 cores, they did not mention any of these documents. Please see my e-mail of January 6 for a description of the small number of documents that they identified as relevant to the design of the e200 cores and related products. I also note that none of the above-listed documents were listed on the "cheat sheet" that Mr. Snyder brought with him to his first deposition on November 30, suggesting that these documents had not been produced by Freescale as of that date. Given the time that has passed since that deposition (nearly 7 weeks), and the disclosures made by Mr. Snyder in his 11/30 testimony regarding the existence of hand-generated circuit schematics and other missing documents, I assume that these documents have now been collected by Freescale and will be produced this week.

One final point: At his deposition last week, Mr. Moyer indicated that Frank Miller is the person at Freescale who designed the cache system for the e200z6 core. In the event that Mr. Nash is unable to answer fully questions within the scope of the noticed deposition topics with respect to the e200-related caches, please have Mr. Miller available on 1/24 so that we can get full testimony and complete that portion of the 30(b)(6) deposition on that date.

I am in the office all day today and tomorrow. Please give me a call if you would like to discuss these matters further. Thanks. Steve.

**From:** Leozino Agozzino [mailto:lagozzino@JonesDay.com]  
**Sent:** Wednesday, January 16, 2008 11:07 AM  
**To:** Routh, Steven J.  
**Cc:** Karl M Maersch; David L. Witcoff  
**Subject:** FSL/PM - Depositions

Steve,

You had asked about whether we can move Snyder's 30b1 to the following week with other witnesses. I am pleased to report that we can produce Mr. Snyder (as a 30b1 witness) on Weds (1/23) and Mr. Nash in response to the Third Notice on Thurs (1/24). We may have an additional witness for Friday in response to the Third Notice but will not know until later this week.

My understanding is that ProMOS believes that it has sufficient documents to take the Third Notice (Chan) depositions at this time. Please be advised that we will not agree to re-produce any witnesses on the basis that our production is incomplete. Given your assurances that ProMOS has no intention of re-deposing the Chan witnesses on that basis, we can go forward with these witnesses next week. Please confirm that our proposed dates and conditions are acceptable.

Karl Maersch will be the contact person and will be forwarding details on the topics shortly. Who will be the point of contact from your end?

Regards,

**A0364**

Leo

Leozino Agozzino  
North Point  
901 Lakeside Avenue  
Cleveland, Ohio 44114  
(216) 586-1236  
(216) 579-0212 (fax)  
lagozzino@JonesDay.com

=====

This e-mail (including any attachments) may contain information that is private, confidential, or protected by attorney-client or other privilege. If you received this e-mail in error, please delete it from your system without copying it and notify sender by reply e-mail, so that our records can be corrected.

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Message from "Routh, Steven J." <SJRouth@HHLAW.com> on Wed, 16 Jan 2008 15:59:36 -0500 -----

<David L. Witcoff" <dlwitcoff@JonesDay.com" T  
:o

"Leozino Agozzino" <lagozzino@JonesDay.com>, "Karl M Maersch"  
, <kmmaersch@JonesDay.com>, "Wright, William H." <WHWright@HHLAW.com> cc  
"Jensen, Sten A." <SAJensen@HHLAW.com>, "Cook, Susan M" :  
<SMCook@HHLAW.com>, "JDay" <jday@ashby-geddes.com>

David: I was in the process of writing you an e-mail yesterday on discovery issues when I received Mary Graham's letter to Judge Poppiti, which raised additional concerns for me. I will address certain aspects of Mary's letter before turning to the discovery issues I previously had identified.

#### **Ms Graham's Letter to Judge Poppiti:**

Although we disagree with many statements in Mary's letter, I will focus here on statements relating to Freescale's production of documents. First, Freescale now suggests that it believed its production of documents was "complete" and no longer subject to dispute as of August 2007. That ignores the fact that ProMOS filed a motion to compel production of additional documents and a Rule 30(b)(6) deposition on technical document issues in August 2007, which remained pending until Judge Farnan granted it October 31. Moreover, we sought to compel the deposition precisely because it was "necessary to ensure the completeness of Freescale's responses to outstanding discovery requests" and to determine "what documents are available and what documents are being produced" by Freescale (see correspondence from Sten and Susan to Kevin Ferguson regarding the deposition). Our August 23 motion to compel specifically sought production of circuit diagrams, RTL documentation and "other documents showing the design and layout of each of the products accused of infringement." We reiterated that position in our September 14 reply brief on the motion. For that reason, I do not understand how Freescale could have understood that its document production was complete in August 2007.

I also was troubled by Mary's statement that ProMOS had agreed to narrow the scope of its document requests in July 2007 and "remained silent for long periods of time" rather than complaining about Freescale's technical document production between August and December. As I have explained in the past, we were been able to provide more specific lists of documents withheld by Freescale until December because you and your colleagues represented to us that Freescale already had produced all technical

documents it maintains while simultaneously refusing to produce a deponent pursuant to our July 3 Rule 30(b)(6) notice for a deposition on that subject. In light of the Statements in Mary's letter, I have reviewed the correspondence on this issue. In a July 10, 2007 letter, Kevin Ferguson represented that Freescale "has repeatedly informed ProMOS that it generates three categories of documents regarding its products: (i) publicly available product manuals; (ii) proprietary Freescale circuit/subsystem workbooks/manuals; and (iii) RTL code." On July 18, Drexel Feeling acknowledged that "Freescale already has stated that it will produce critical documents comprising (i) publicly available product manuals and (ii) proprietary Freescale circuit/ subsystem workbooks/manuals," and (iii) that Freescale would consider making RTL materials available if ProMOS believed it needed them. Thus, your colleagues specifically told us that it had produced or would produce all technical documents relating to the accused products (not limited to the cores), with the only issue identified by Freescale being the location and other limits on its production of RTL code. Nonetheless, on August 13, we sent a letter explaining our view that Freescale still had *not* completed production of its technical documents, and we specifically noted the absence of "any circuit diagrams, RTL documentation, or other documents that reflect [the products'] design or layout."

In light of the history of motions and correspondence, I do not see how Freescale can attempt to blame ProMOS for somehow failing to make you sufficiently aware of the deficiencies in Freescale's production of technical documents. Nor do I understand how you can blame ProMOS for failing to bring to your attention the pages and chapters that were missing from the microarchitectural documents that you did produce last summer. The fact that Freescale produced those limited microarchitectural documents, such as the MicroArchitectural Specification for the e300 core, shows that you understood that such documents were called for by ProMOS's document requests, and the fact that highly relevant chapters and pages of such documents were withheld from production raises troubling questions, not only about the specific documents that were produced only in part, but also about what other microarchitectural documents were not produced at all. Mary's letter is not the first time that Freescale has argued that ProMOS agreed to limit its request for documents to a limited subset of core-related materials. Karl made that same argument to Judge Farnan on December 13 with respect to the production of RTL code, and as my letter to Judge Poppiti explains, that argument is flatly refuted by the e-mail correspondence in which I specifically refused to narrow our document requests in that manner.

Finally, Mary's letter complains at length that ProMOS's initial interrogatory responses on Freescale's infringement of the Chan patents were not sufficient. But, as you know, Judge Farnan reviewed those interrogatory responses and found in his October 31 Order that "Plaintiff has appropriately responded and provided its infringement contentions." Because Freescale has not yet produced complete circuit schematics and RTL documentation, as required by the Judge's October 31 Order, our ability to provide final infringement contentions has been seriously impeded. Nonetheless, with Freescale's production on January 8, 2008 of a complete copy of the 603e Microarchitecture Specification, including the critical chapter on "Data Cache Control," we have now prepared a detailed set of infringement contentions reading the claims of the '709 and '241 patents onto the e300 core. Those contentions will be sent to you later today or tomorrow (they are undergoing final review as I type). As you know, Exhibit 3 to Mr. Snyder's original deposition transcript is a document prepared by Freescale's counsel for purposes of providing information to ProMOS, and it lists the 603e microarchitecture materials as relating to the e300 core. Mary's letter to Judge Poppiti suggests (without explicitly stating) that the 603e Microarchitecture Specification is not directly relevant to the e300. If that statement is true, please notify us immediately, as it contradicts the information you provided in Exhibit 3 and may affect the analysis we have done to date.

In addition, while we do not believe Freescale has produced all of the microarchitecture documents that exist for the e500 core, we have prepared a detailed set of infringement contentions reading the claims of the '709 patent on the e500 core. Those contentions also will be sent to you later today or tomorrow. We are continuing to work on a detailed reading of the claims of the '241 patent on the e500 core, as well as work on other Freescale cores and products, but our work continues to be impeded by Freescale's failure to produce microarchitectural documentation and circuit schematics, including specific documents that appear to exist and be within Freescale's, based on our review of Mr. Snyder's deposition and the notes he compiled of his investigation of technical documents at Freescale. Given the deficiencies in Freescale's document production, we explicitly reserve the right to supplement or revise our infringement contentions for both of these cores as Freescale continues to produce technical documents to come into

compliance with its discovery obligations.

**Status of Freescale's Technical Production:**

With regard to the remaining cores and products, we are moving as quickly as can be expected in light of Freescale's failure to produce critical technical documents, including circuit schematics and microarchitectural documents which would make our work much more efficient. Because Mr. Snyder testified that he did not perform a search for documents prior to his January 9, 2008 deposition, Snyder Dep. at 43, and could not say whether anyone else at Freescale did so, id. at 43, we reiterate our request that Freescale perform a thorough search to determine what other documents might exist that were not specifically identified by Mr. Snyder at his deposition and therefore are not specifically listed below. We also request that Freescale produce any drafts or other versions of Mr. Snyder's notes relating to his preparation for the deposition by the close of business tomorrow.

Here are the key documents already identified in connection with Mr. Snyder's deposition that appear to be maintained by Freescale but that we believe have not yet been produced in discovery. As indicated above, Freescale may maintain even more relevant documents that have not yet been mentioned by Mr. Snyder or Freescale, and our listing of the documents below is not intended to limit Freescale's obligations to produce all such documents. For the sake of brevity, all section numbers referenced below are to the document marked as Exhibit II-2 at the January 9, 2008 deposition:

**e200 cores and products:** I already addressed documents relating to these cores and products in an e-mail that I sent to Leo this morning. We have been unable to locate in your production the custom schematics listed in section 12.7.2, the integration guide identified in section 11.8, the verification guide referenced in section 11.10, the product requirements document identified in section 11.4, the DFT guide listed in section 11.9, the SoC guide listed in section 12.3, the verification plan identified in section 12.4, and the SRAM integration guide listed in section 12.5.

**e300/603e/603ev/G2 cores and products:** For these cores and products, we are unable to locate in your production the custom schematics identified in sections 5.2.6.2 and 6.10.2, the Verification Guides described in sections 5.2.1.4, 5.3.6, and 6.8, the Integration Guide described in sections 5.2.2 and 6.7, the DFT Guide described in section 5.2.3, the PRLs and SOWs described in sections 5.2.1.2, 5.3.2, and 6.2, the block guides described in sections 5.3.5 and 6.5, the product requirement documents described in section 5.3.1, and the SoC Guide/Architecture Definition Documents described in section 6.3. Mr. Snyder apparently did not speak with anyone about the MPC82xx products, but we will of course need any microarchitecture documents and/or schematics that exist relating to those products as well.

**e500 cores and products:** For these cores and products, we are unable to locate in your production the custom schematics described in section 6.10.2, the Verification Guides described in section 5.4.1.6, and 6.8, the Integration Guides described in section 5.4.2.4 and 6.7, the DFT Integration Guide described in section 5.4.2.5, the SoC Guide/Architecture Definition Document described in section 6.3, all of the Block Guides described in section 6.5, the MRD described in section 6.1, and the PRL/PRD described in section 6.2. Given the limitations of Mr. Snyder's knowledge, we also have no way to verify whether we have received microarchitecture documents for all of the memory subsystem blocks as described in section 5.4.1.4.

**ARM-based products:** For these products, we are unable to locate in your production the Architecture Definition Documents described in section 2.3.1, the Block Guides identified in section 2.4.2 (which Mr. Snyder's notes reveal should exist for "each of the different pieces of IP which are being integrated together in the SoC"), the document identified in section 1.2.4 as "gds2," and the market requirement and product requirement documents described in sections 2.2.1 and 2.2.2.

**Coldfire cores and products:** For the Coldfire cores and products, we are unable to locate in your production the custom schematics identified in section 4.10.2, the Architectural Definition Documents described in section 4.5, the SoC Guides identified in section 4.6, the Verification Plan identified in section



4.7, the Whitepaper for the Coldfire v.5 listed in section 3.1.1, the DFT plan identified in section 4.8, and the market requirement documents and product requirements documents identified in sections 4.1 and 4.2.

**G4/e600 cores and products:** For these cores and products, we are unable to locate in your production a number of the Microarchitectural Documentation Workbooks described in section 7.2.3, the custom schematics described in sections 7.4.2 and 7.6.9.2, the Design Review Documents described in section 7.5.1, the Architecture Definition Document described in section 7.6.4, the e600 Integration Guide described in section 7.6.5, and the Block Guides described in section 7.6.7. Mr. Snyder apparently did not speak to anyone about the G4 core, but any technical documents relating thereto should be produced immediately.

**MPC8xx core and products:** For this core and related products, we are unable to locate in your production the custom schematics identified in section 10.8.2 and the verification documents for the SoCs identified in section 10.6. To the extent that design review documents exist (section 10.5 indicates that Freescale had not yet finished analyzing that issue), they should also be produced.

**SC1400/SC3400 cores and products:** For these cores and products, we are missing the custom schematics identified in sections 8.1.11.2 and 9.3.8.2, the core reference manuals described in sections 9.2.1 and 9.3.1, some of the block guides identified in section 9.2.3, the Verification Plans described in sections 9.2.7 and 9.3.6, the DFT plans described in sections 9.2.8 and 9.3.9, the subsystem user manual described in section 9.3.2, the microarchitecture documents for the L2 cache described in section 9.3.11, the block guides identified in section 8.1.6, the creation guides identified in section 8.1.7, the integration guides identified in section 8.1.8, the verification plan identified in section 8.1.9, the third party IP documents identified in section 8.1.10, the customer presentations identified in section 8.1.5. Mr. Snyder apparently did not speak with anyone at Freescale regarding the existence of documents relating to the MSC81xx products, but we expect all technical documents relating to such products to be produced.

**DSP 56300 core and products:** For these cores and products, we are unable to locate in your production the schematics identified in section 9.1.4. Moreover, due to Mr. Snyder's lack of knowledge about the documents listed in his notes, we are unable to determine whether we have received all of the "design docs" identified in section 9.1.2.

**MC68060:** For this product, we are unable to locate the Edge Whitepaper identified in section 3.2.1. Please also check to see whether Freescale has indeed produced all of the schematics in its possession relating to the MC68060.

The documents listed above should have been produced months ago, and Freescale's failure to produce them has severely prejudiced ProMOS. Given that discovery is scheduled to close in a matter of days, we must request that you produce all outstanding documents, as well as all drafts and copies of Mr. Snyder's notes, by the close of business tomorrow.

#### **Status of deposition testimony on technical issues relating to the Chan patents.**

When I began preparation of this e-mail, I intended to raise with you the need to move forward promptly with depositions pursuant to our Third Rule 30(b)(6) Notice, which we served 4 weeks ago today. As I explained in our discussion at the end of Mr. Snyder's second deposition last week, there is no way for us to know whether we have obtained all the technical documents maintained by Freescale that describe the design of the accused products without completing that 30(b)(6) deposition, since Mr. Snyder repeatedly deferred to others at Freescale when asked specifics about the nature and content of documents that he learned about in his investigation. However, earlier this morning I received an e-mail from Leo about scheduling depositions of the first couple Freescale designees on the Third Rule 30(b)(6) Notice, and I responded with much of what I intended to say to you. You were cc'd on my e-mail to Leo. Let's move forward and complete the scheduling of depositions on the Third Notice for next week and the week of January 28 (as I previously have agreed to complete that deposition beyond the January 22 fact discovery cut-off to accommodate your witnesses schedules).

I am in my office today and tomorrow if you would like to discuss any of the above issues further. Steve.

Steven Routh, Partner  
HOGAN & HARTSON LLP  
Columbia Square, 555 Thirteenth Street, NW, Washington, DC 20004  
direct +1.202.637.6472 | tel +1.202.637.5600 | fax +1.202.637.5910  
[sjrouth@hhlaw.com](mailto:sjrouth@hhlaw.com) | <http://www.hhlaw.com>

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## Teleconference

Page 1

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

1	PROMOS TECHNOLOGIES	)	
2	INC.,	)	
3		)	
4	Plaintiff,	)	Civil Action No.
5		)	1:06-cv-00788-JFF
6	v.	)	
7		)	
8	FREESCALE	)	
9	SEMICONDUCTOR INC.,	)	
10		)	
11	Defendant.	)	
12		)	
13	FREESCALE	)	
14	SEMICONDUCTOR INC.	)	
15		)	
16	Counter Claimant,	)	
17		)	
18	v.	)	
19		)	
20	PROMOS TECHNOLOGIES	)	
21	INC.,	)	
22		)	
23	Counter Defendant.	)	

A teleconference was taken pursuant to notice before Ellen Corbett Hannum, Registered Merit Reporter, in the law offices of Blank Rome, LLP, 1201 N. Market Street, Suite 800, Wilmington, Delaware, on Thursday, January 17, 2008, beginning at approximately 11:15 a.m., there being present:

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## Teleconference

<p style="text-align: right;">Page 34</p> <p>1 MR. WITCOFF: I've heard them sing, you 2 don't want to hear that. 3 SPECIAL MASTER POPPITI: Okay. 4 MR. WITCOFF: Well, you have seen the 5 papers. I have never seen so many papers in my life on 6 what I would term a simple motion for a brief request of 7 an extension of a deadline, but you've certainly been 8 deluged with stuff, and I am sure you had the displeasure 9 of having to plow through that. So let me try to cut 10 behind that. I'm not going to repeat that stuff unless, 11 of course, Your Honor has questions about it. But let me 12 try to come at it a slightly different way. 13 This is not a dispute where one party 14 does not want to give documents to the other party. 15 Freescale is not trying to hold anything back. I mean, 16 to the contrary, even though it does not agree that many 17 of the documents that ProMOS is demanding are relevant 18 and even though it believes ProMOS has had much, if not 19 all, of the information it truly needs for months, 20 Freescale wants to avoid any further discovery disputes 21 and simply produce the expanded scope of the types of 22 documents that we now understand that ProMOS wants and 23 claims that it needs on both a core basis and on a 24 product-level basis. And that would even include the</p>	<p style="text-align: right;">Page 36</p> <p>1 documentation. What I understand -- and we went through 2 Mr. Snyder's second deposition and we gave Mr. Routh an 3 exhibit that identified the results of the documents that 4 Mr. Snyder found after a very laborious investigation 5 with the appropriate people at Freescale. And we 6 produced a bunch of that. We have still not produced 7 some of it because some of it, frankly, is not in the 8 United States and it's difficult to get and we are trying 9 to pull it in. 10 The categories of materials that I 11 understand that they want and the stuff that we are 12 intending to produce to the extent it has not already 13 been produced, would be the schematics, the 14 microarchitecture documents on both the core and a 15 product-level basis, again, including for the first time 16 a number of new products that they just identified to us. 17 And by that I specifically mean -- and, again, this is to 18 the extent we have not already done this: high-level 19 documents, things like market requirement documents, 20 product requirement documents, architectural definition 21 documents, microarchitectural documents, for additional 22 aspects of the core, these are the aspects that I don't 23 believe are relevant, but they want, we don't want to 24 fight anymore, we just want to give it to them.</p>
<p style="text-align: right;">Page 35</p> <p>1 materials for a number of new products that they are 2 accusing that they identified only a few weeks ago. 3 SPECIAL MASTER POPPITI: Okay. And 4 then, Mr. Witcoff, do this for me, in light of what you 5 have just said -- and it would have been a question of 6 mine. 7 With the commitment that you say you are 8 making, what do you believe remains to be produced? And 9 with respect to that production, what kind of effort/work 10 do you expect that has to be done in order to fulfill 11 what you say is your commitment to give everything that 12 you expect that ProMOS is asking for? 13 MR. WITCOFF: Yes. I was actually going 14 to raise this, too, because I also want to make sure we 15 have a common understanding because this has been a very 16 trying process for everybody in terms of trying to 17 understand what people really want so we can collect the 18 appropriate materials for them. 19 We initially had talked about an 20 agreement to produce critical, technical documents on a 21 core basis or on an extended core basis for these accused 22 products. It became clear to us, really shortly after 23 Mike Snyder's deposition on November 30, that ProMOS was 24 claiming that they needed additional types of</p>	<p style="text-align: right;">Page 37</p> <p>1 SPECIAL MASTER POPPITI: Okay. 2 MR. WITCOFF: These are things like 3 components, like a floating point unit and things like 4 that that -- I would be surprised if they turn out to be 5 relevant in any way to the Chan patent allegations. 6 Microarchitectural documents generated by the product 7 teams at Freescale. Schematics for any custom library 8 elements or design schematics. 9 In other words, to the extent we haven't 10 already collected or produced it, any other schematics, 11 except for the standard cell library schematics that 12 Mr. Routh and I agreed that were not necessary to be 13 produced. Testing documents, such as verification plans; 14 again, on both the core level and product level. And any 15 additional design presentations that we can locate after 16 a reasonable and thorough search on both the core level 17 and a product level. 18 SPECIAL MASTER POPPITI: And may I take 19 your reference to schematics that that includes 20 Mr. Routh's concerns about custom schematics that he says 21 have still not been produced? 22 MR. WITCOFF: Yes, it does. We dispute 23 that statement to some extent, but it absolutely does 24 include it. When I said "schematics," except for the</p>

## Teleconference

<p style="text-align: right;">Page 38</p> <p>1 standard cell library schematics, that was exactly the  2 intention to say that we are going to be collecting and  3 producing to the extent we have not already done that  4 these custom schematics. In fact, both of them have been  5 identified in the Snyder deposition exhibits, where  6 Mr. Snyder went to people who are in charge of these  7 cores and these accused products and said, "What types of  8 technical documentation do you have?" And he just  9 recorded, he recorded what they told him.  10 There is really no intention to hold  11 anything back. If these folks feel they really want this  12 stuff, we will kill them with kindness, as I like to say,  13 and we will give them what they asked for. And if they  14 can use it, that's great. If they can't, well, then,  15 then we have all wasted some time, but we want to get  16 these discovery issues behind us.  17 SPECIAL MASTER POPPITI: Okay. Now,  18 having answered that, how much work do you expect in  19 terms of timing do you expect you need in order to  20 accomplish that?  21 MR. ROUTH: I'm sorry, Judge, you were  22 cutting out. The last I heard was "having answered  23 that."  24 SPECIAL MASTER POPPITI: Yes. We heard</p>	<p style="text-align: right;">Page 40</p> <p>1 but we have responsive documents in our Israel facility.  2 It's slower and more difficult to pull those materials  3 out. So for the stragglers and the Israeli materials,  4 our goal and our expectation and hope is to get that  5 produced by the end of the month.  6 So to answer your question, really, two  7 weeks from today I'm hoping we are either done or  8 virtually done. I'm always a little nervous about  9 missing something here or there because we are truly  10 moving, as my kids would say, at super speed, and when  11 you do that, there is a chance of overlooking something.  12 But this is our goal. This is one of the reasons why we  13 brought extra people on the team, and this is one of the  14 reasons why we have been moving heaven and earth ever  15 since these issues became apparent to us.  16 SPECIAL MASTER POPPITI: So, then, if I  17 understand you correctly, that you believe, given the  18 work you have already done, the information that you have  19 catalogued in your presentation to me just then, you  20 expect that you are going to be able to accomplish all of  21 that in a good-faith effort not later than the 31st of  22 January.  23 MR. WITCOFF: That is correct. We are  24 trying to collect everything else that has not yet been</p>
<p style="text-align: right;">Page 39</p> <p>1 interference. Again, I'm not sure where that is coming  2 from.  3 Having answered that, if you turn to the  4 issue of how long do you expect it's going to take for  5 you to be able to say: "We are at a finish. We have  6 done it all"?  7 MR. WITCOFF: Yes. I appreciate that  8 question. Please appreciate, as I'm about to answer  9 this, ProMOS has accused a tremendous number of different  10 products and product families, and Freescale has  11 operations all over the world. And we have actually been  12 moving heaven and earth, even over the holiday period,  13 much to the chagrin and annoyance of our client who  14 didn't like being bothered, trying to gather these  15 materials. And we have made great progress. We produced  16 a fair amount of documents. There is still some more to  17 go. Based on what I currently know -- and, again, this  18 is where I invite my team to correct me if I am wrong.  19 We believe we'll be able to get ProMOS  20 the vast majority of these documents sometime by the end  21 of next week. I'm sure there will be some stragglers,  22 they're always some stragglers. And there is one  23 exception I am already aware of, and that is we have a  24 fair amount of documents -- I don't know the volume --</p>	<p style="text-align: right;">Page 41</p> <p>1 produced that we identified in Mr. Snyder's list, things  2 that were -- where the investigation was still in  3 progress. So we did have a handful of open questions,  4 but we are shooting to produce all those materials by the  5 end of this month. We are not going to wait until the  6 end of the month and just do a document dump --  7 SPECIAL MASTER POPPITI: No. I  8 understand.  9 MR. WITCOFF: -- on ProMOS. We are  10 going to roll it out in some reasonably sensible fashion.  11 That's why I was saying I think we will be able to get a  12 fair amount of this material out next week, and then the  13 goal is to have the rest of the material out by January  14 31st.  15 SPECIAL MASTER POPPITI: All right.  16 Would it be fair, then, for me to ask whether your  17 agreement can be in the form with respect to what you  18 just said of here is our agreement and you agree that  19 that can be so ordered, understanding that if there are  20 additional documents that come to your attention that you  21 have got the ongoing obligation to produce, and  22 understanding that it is a representation that you will  23 make a good-faith effort to complete everything by  24 January 31st?</p>

130

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**STIPULATED ORDER EXTENDING THE DISCOVERY DEADLINE**

On January 8, 2008, Defendant Freescale Semiconductor, Inc., ("Freescale") moved for an extension of the discovery deadline until February 29, 2008. Each of the parties submitted letters to the Court, in which they stated their positions regarding Freescale's motion for an extension. On January 17, 2008, Freescale and Plaintiff, ProMOS Technologies, Inc. ("ProMOS") participated in a telephonic hearing on the issue before Special Master Vincent Poppiti, during which each party was given the opportunity to be heard. During the telephonic hearing, agreement was reached by the parties regarding disposition of Freescale's Motion for Extension of the Discovery Deadline.

Based on the Stipulation of the parties, after reviewing and considering the parties' submissions related to Freescale's motion, the Court being otherwise fully advised and good cause having been shown;


## IT IS HEREBY ORDERED

1. The current discovery deadline, January 21, 2008, is extended until February 1, 2008 for the purpose of permitting further discussions among the parties and the Special Master and for a determination by the Special Master of the schedule for the completion of discovery. The parties will provide status reports by telephone to Special Master Poppiti on January 24,

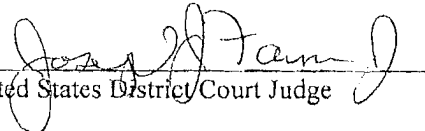
2008 at 5:30 p.m. and on February 1, 2008 at 2:30 p.m. EST. Between the date of this Order and February 1, 2008, the parties will diligently work to schedule outstanding depositions and complete document production in this matter;

2. Freescale will produce the following types of documents: schematics for any custom library elements or design schematics (but not standard cell library schematics); high level documents, such as microarchitecture documents on both the core and a product-level basis, market requirement documents, product requirement documents, and architectural definition documents; testing documents, such as verification plans, on both the core level and product level; and, any additional design presentations that Freescale can locate after a reasonable and thorough search on both the core level and a product level. For the products accused of infringement in this matter as of the date of this Order, Freescale will make a rolling production of these documents and will make a good-faith effort to complete this production by not later than January 31, 2008. To the extent that additional documents come to Freescale's attention, Freescale will produce them promptly thereafter.

ENTERED this  
24th day of January, 2008

  
\_\_\_\_\_  
Vincent J. Poppiti (#100614)  
Special Master

SO ORDERED this 25 day of January, 2008.

  
\_\_\_\_\_  
United States District Court Judge

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Page 1

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE  
PROMOS TECHNOLOGIES, )  
INC., )  
Plaintiff, )  
VS. ) CIVIL ACTION  
FREESCALE SEMICONDUCTOR, )  
INC., ) NO.: 06-788-JJF  
Defendant. )

\*\*\*\*\*  
CONFIDENTIAL - OUTSIDE ATTORNEYS' EYES ONLY  
\*\*\*\*\*

ORAL AND VIDEOTAPED 30(b)(1) and 30(b)(6)  
DEPOSITION OF FREESCALE SEMICONDUCTOR, INC. BY AND  
THROUGH JAMES C. NASH, produced as a witness at the  
instance of the PLAINTIFF, and duly sworn, was taken  
in the above-styled and numbered cause on the 24th of  
January, 2008, from 9:34 a.m. to 2:11 p.m., before  
Tamara Vinson, Certified Shorthand Reporter No. 3015  
and Notary Public in and for the State of Texas  
78701, reported by machine shorthand and audio/video  
recording, at the offices of Fulbright & Jaworski LLP,  
600 Congress Avenue, Suite 2400, Austin, Texas,  
pursuant to Notice and the Federal Rules of Civil  
Procedure and the provisions stated on the record or  
attached hereto.

A0373

REDACTED

Page 1

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC., :  
 :  
Plaintiff : CA NO. 06-788 (JJF)  
 :  
V. :  
 :  
FREESCALE SEMICONDUCTOR, INC., :  
 :  
Defendant :

\*\*\*\*\*  
VIDEOTAPED AND ORAL DEPOSITION OF  
DAVID A. HOLODY  
FEBRUARY 7, 2008  
\*\*\*\*\*

Reported by: Jane E. Demars

CONFIDENTIAL - OUTSIDE ATTORNEYS' EYES ONLY

**A0377**



REDACTED

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	
	)	

**ORDER AMENDING DISCOVERY SCHEDULE**

Upon consideration of the February 11, 2008 submissions of plaintiff ProMOS Technologies, Inc. ("ProMOS") and Freescale Semiconductor, Inc. ("Freescale"), as well as the argument of counsel during the telephone conference with Special Master Vincent J. Poppiti on that same date, the Court being otherwise fully advised and good cause having been shown;<sup>1</sup>

IT IS HEREBY ORDERED:

1. Freescale shall complete production of documents relating to accused products and cores described in paragraph 2 of the Stipulated Order Extending Discovery Deadline (Docket No. 132) on or before February 25, 2008. Freescale will produce the documents on a rolling basis, as they are located, prior to that date. If any such documents are located after February 25, 2008, Freescale shall so notify ProMOS and promptly produce them.

---

<sup>1</sup> The Special Master by accepting ProMOS's proposed language for ¶¶ 5 and 6 and declines to accept Freescale's proposed language regarding same. While the Special Master is mindful that the Eastern District of Texas has adopted local rules making mandatory the Disclosure of Infringement Contentions (E.D. Texas Local Rule 3-1) as well as the serving of Invalidity Contentions (E.D. Texas Local Rule 3-3) both in a structured formulaic format, and while the Special Master understands and appreciates the value of such an approach particularly in patent litigation, the fact remains that the District Court of Delaware has not by local rule, decisional law, or chamber practice mandated such an approach. Moreover, the time for consideration of such an approach has long since past with the issuance of its Pre-Trial Order.

The Special Master also declines to accept Freescale's language in ¶ 5 which states, "ProMOS" will make a good-faith effort in these contentions to reduce by one-half or more the number of patent claims asserted per patent." This is not yet ripe for consideration.

2. With respect to schematics previously produced by Freescale in discovery, if ProMOS gives notice that it is unable to identify the product or core to which a schematic relates, then Freescale shall promptly provide ProMOS with information sufficient to so identify the product(s) or core(s). If Freescale produces additional schematics, it shall provide information regarding the core(s) and product(s) to which the schematics relate at the time of the production or as soon thereafter as possible.

3. The fact discovery deadline will be extended until March 21, 2008 for the limited purpose of completing discovery propounded prior to January 21, 2008. No new discovery will be permitted without agreement of the parties or leave of the Special Master upon a showing of good cause.

4. The discovery to be completed pursuant to Paragraph 3 shall include completion of the Rule 30(b)(6) deposition of Freescale relating to the Chan-accused products, pursuant to the deposition notice dated December 19, 2007. Freescale already has produced a number of Rule 30(b)(6) designees in response to that notice to testify regarding certain accused products and cores, and it has agreed to provide additional designees for deposition on twelve dates on or before March 13, 2008. To the extent Freescale produces additional documents pursuant to Paragraph 1 that may be relevant to the subject(s) on which a Rule 30(b)(6) deponent is designated to testify, Freescale will make every effort to produce such documents sufficiently in advance of the deposition to permit their use at the deposition.

5. Within 10 business days following completion of the each of the depositions discussed in Paragraph 4, ProMOS shall provide Freescale with supplemental infringement contentions with respect to any accused product(s) and/or core(s) that were the subject of the depositions. For the Rule 30(b)(6) depositions taken by ProMOS on January 24 and 25, 2008, ProMOS shall provide its supplemental infringement contentions by February 18, 2008. For the

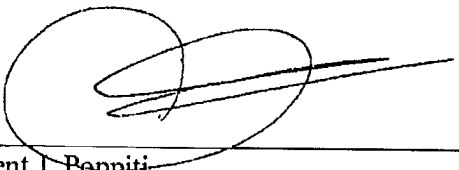
Fortin patent-in-suit, ProMOS shall provide its supplemental infringement contentions within 10 business days following Freescale's production of documents responsive to the ProMOS requests in its letter of February 8, 2008. By so providing Freescale with supplemental infringement contentions on a rolling basis, ProMOS shall provide Freescale with supplemental infringement contentions with respect to all accused products, cores, and processes on or before March 21, 2008.

6. On or before March 28, 2008, defendant Freescale Semiconductor will serve supplemental invalidity contentions.

7. Except as provided for in Paragraphs 5 and 6, each party will supplement its outstanding responses to interrogatories by February 29, 2008. This deadline is intended to set a milepost by which the parties are to consider the need for, and to provide, supplemental discovery responses; it is not intended to replace or diminish each parties obligations under Fed. R. Civ. P. 26(e) either before or after February 29, 2008.

8. Within five days after the Court issues its claim construction ruling, the parties shall meet, confer, and report to the Special Master on whether they believe any additional discovery, supplementation of discovery, or other steps are needed in light of the ruling.

ENTERED this 15 day of February, 2008.

  
\_\_\_\_\_  
Vincent J. Peppiti  
Special Master

SO ORDERED this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
United States District Judge

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Page 1

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC., )

)

Plaintiff, )

) Civil Action No.

VS. ) 06-788 (JJF)

)

FREESCALE SEMICONDUCTOR, INC., )

)

Defendant. )

\*\*\*\*\*

ORAL AND VIDEOTAPED DEPOSITION OF

BORIS BOBROV

FEBRUARY 20, 2008

\*\*\*\*\*

ORAL AND VIDEOTAPED DEPOSITION OF BORIS BOBROV, produced as a witness at the instance of the Plaintiff Promos Technologies, Inc., and duly sworn, was taken in the above-styled and numbered cause on the 20th day of February, 2008, from 9:32 a.m. to 9:48 a.m., before AMBER KIRTON, CSR in and for the State of Texas, reported by machine shorthand, at the Law Offices of Fulbright & Jaworski, 600 Congress, Suite 2300, Austin, Texas, pursuant to Plaintiff's Notice and the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.

(866) 448.DEPO

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A0403

REDACTED



"Cook, Susan M."  
<SMCook@HHLAW.com>

03/05/2008 03:36 PM

To "Thomas R. Goots" <trgoots@JonesDay.com>, "James L. Wamsley III" <jlwamsleyiii@JonesDay.com>  
cc "Wright, William H." <WHWright@HHLAW.com>, "Routh, Steven J." <SJRouth@HHLAW.com>

bcc

Subject

History: This message has been replied to.

Tom,

In light of discovery taken to date, we do not see the need to proceed with the deposition of the witness who has been assigned to cover to the MSC711x products (set for March 13). You can remove that witness from your calendar.

Susan

"EMF <HHLAW.COM>" made the following annotations.

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## ColdFire® Embedded Controllers

# MCF532x/7x Embedded VoIP Solution

## MCF53281CVM240 / MCF53721CVM240

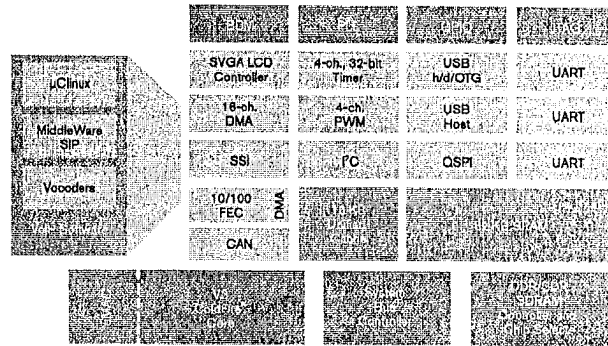
### Overview

Freescale Semiconductor proudly introduces an addition to the 68K/ColdFire family of embedded controllers, a complete hardware and software solution for commercial VoIP applications based on the popular MCF532x products. The solution is designed to help embedded developers reduce time-to-market by providing a complete hardware and software solution that can function as a reference design or a take-to-market product platform. This flexibility gives developers the option to integrate fully developed module boards or design their own application. The system includes all required software components to develop a feature-rich product and does not require an NRE, lowering overall system cost. The solution is supported by a stand-alone development kit that is ready to demo out-of-the-box. This easy to use, cost-effective solution will help simplify development and allow designers to enable more applications with VoIP capability.

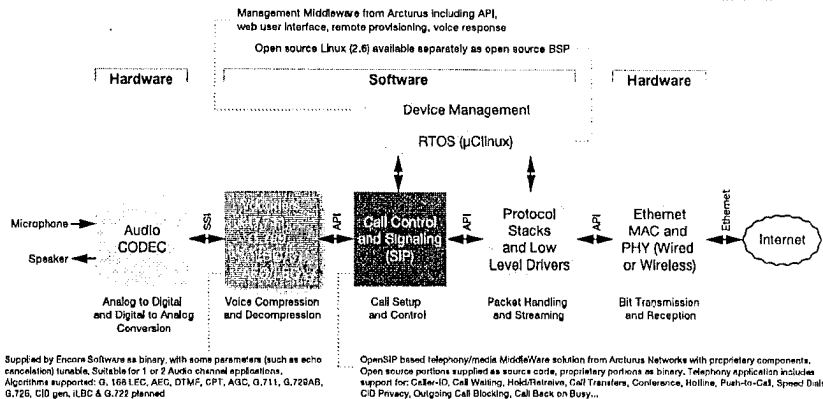
### Target Markets

- Commercial/Industrial Uses
  - Gas pump
  - Vending machine
  - Toll booth
  - ATM
  - Medical equipment
  - Production equipment
  - Intercom
- Residential Uses
  - Security system
  - Child monitor
- Telephone Uses
  - Basic VoIP telephone

### MCF532x Block Diagram



### NRE-Free Software Solution



### Applications

- Shell/telnet server
- DHCP/NTP and networking applications
- Webserver
- Microwindows/NanoX for LCD GUI applications

### Full-Featured Bootloader

- Persistent object support
- Kernel API and CLI
- TFTP client/server
- Flash partitioning
- Watchdog support

### Management Middleware

- Device management API
- WED UI, SSL remote provisioning, voice response

### VoIP/Media Middleware

- Certified SIP signaling stack
- Feature-rich telephony application
- QoS and firewall traversal
- Compatible with leading infrastructure equipment and open source PBX implementations
- Simple command line API

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### VoIP Development System

The ColdFire Embedded VoIP Development Kit, the M53281KIT, is a compact, easy-to-integrate development system designed by Freescale and Freescale Design Alliance Partner, Arcturus Networks, Inc., for enabling commercial VoIP functionality in embedded applications. The module is based on the 240 MHz Freescale ColdFire® MCF53281 microprocessor and includes all required system memory and terminations to enable most applications without the need for external circuitry. It features audio, Ethernet, CAN, serial, I/O and USB host communications systems as well as standard peripheral device connectivity using I<sup>2</sup>C or QSPI. The device also features an integrated SVGA LCD controller for applications requiring high-resolution graphical displays. Daughter cards are available for LCD-to-VGA scan conversion and FXS applications. The solution fits standard off-the-shelf enclosures to help accelerate proof-of-concept implementations and is certified by applicable regulatory agencies. Schematics and documentation are provided to assist customers with implementation or the creation of their own hardware designs.

The development system includes an open source uClinux™ embedded software BSP, complete with source code, GNU tools, kernel and broad collection of applications and drivers. A certified SIP telephony stack and audio subsystem is included with API, along with a device management middleware system. A host development board, power supply cable kit and manual are also included.

### Key ColdFire M53281KIT Features

- Host board
- M53281MOD Module
- Video interface daughter card, audio headset, P&E BDM wiggler, power supply and GNU tools
- VoIP and management software
- All licenses for VoIP and management software use
- Documentation and out-of-the-box VoIP demo
- Part number: M53281KIT
- Pricing: \$749 (SRP)

### Key ColdFire M53281MOD Features

- MCF53281CVM240 processor
- 32 MB SDRAM and 16 MB NOR Flash
- Ethernet PHY and CAN Transceiver
- Audio codec/amplifier
- VoIP and management software
- All licenses for VoIP and management software use
- Easy-to-integrate 50pin header or edge connector socket
- Part number: M53281MOD
- Pricing: \$99 (SRP) at volume

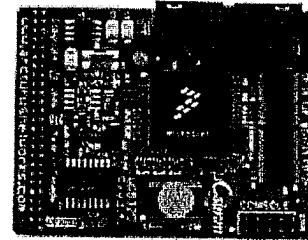
### Key ColdFire MCF53281/ MCF53721 Features

- V3 ColdFire core with EMAC offering up to 211 MIPS @ 240 MHz
- 16 KB I/D cache and 32 KB SRAM
- 16-bit DDR/32-bit SDR SDRAM controller
- Integrated SVGA LCD controller (No LCD on MCF53721)
- USB 2.0 low/full-speed host controller with on-chip transceivers
- USB 2.0 low/full-speed On-The-Go controller with on-chip transceivers

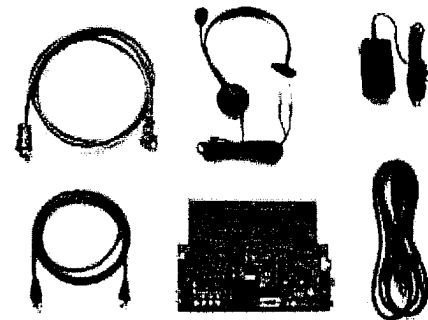
- 10/100 Fast Ethernet controller (FEC)
- Enhanced CAN 2.0B controller
- VoIP and management software
- All licenses for VoIP and management software use
- Part number: MCF53281CVM240 (256 MAPBGA) / MCF53721CVM240 (196 MAPBGA)
- Pricing from: \$12.94 (SRP) at volume

### Where to Go for Additional Information

- M53281KIT Embedded VoIP Development Kit Webpage (design files, documentation and example code)
- MCF532x Product Family Webpage (feature list, documentation, application notes)
- ColdFire MCF53281 Reference Manual
- Arcturus Networks, Inc.—  
Freescale Design Alliance Partner  
(www.arcturusnetworks.com)



ColdFire M53281MOD



ColdFire M53281KIT

**Learn More:** For current information about Freescale products and documentation, please visit [www.freescale.com/coldfire](http://www.freescale.com/coldfire).

# Freescal Semiconductor

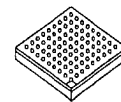
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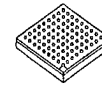
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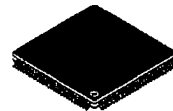
### MCF5373



MAPBGA-256  
17mm x 17mm



MAPBGA-196  
15mm x 15mm



QFP-160  
28mm x 28mm

## MCF537x ColdFire® Microprocessor Data Sheet

### Features

- Version 3 ColdFire variable-length RISC processor core
- System debug support
- JTAG support for system level board testing
- On-chip memories
  - 16-Kbyte unified write-back cache
  - 32-Kbyte dual-ported SRAM on CPU internal bus, accessible by core and non-core bus masters (e.g., DMA, FEC, and USB host and OTG)
- Power management
- Embedded Voice-over-IP (VoIP) system solution
- SDR/DDR SDRAM Controller
- Universal Serial Bus (USB) Host Controller
- Universal Serial Bus (USB) On-the-Go (OTG) controller
- Synchronous Serial Interface (SSI)
- Fast Ethernet Controller (FEC)
- Cryptography Hardware Accelerators
- Three Universal Asynchronous Receiver Transmitters (UARTs)
- I<sup>2</sup>C Module
- Queued Serial Peripheral Interface (QSPI)
- Pulse Width Modulation (PWM) module
- Real Time Clock
- Four 32-bit DMA Timers
- Software Watchdog Timer
- Four Periodic Interrupt Timers (PITs)
- Phase Locked Loop (PLL)
- Interrupt Controllers (x2)
- DMA Controller
- FlexBus (External Interface)
- Chip Configuration Module (CCM)
- Reset Controller
- General Purpose I/O interface

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Exh. 7

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## MCF537x Family Comparison

# 1 MCF537x Family Comparison

The following table compares the various device derivatives available within the MCF537x family.

**Table 1-1. MCF537x Family Configurations**

Module	MCF5372	MCF5372L	MCF53721	MCF5373	MCF5373L
ColdFire Version 3 Core with EMAC (Enhanced Multiply-Accumulate Unit)	•	•	•	•	•
Core (System) Clock	up to 180 MHz	up to 240 MHz		up to 180 MHz	up to 240 MHz
Peripheral and External Bus Clock (Core clock ÷ 3)	up to 60 MHz	up to 80 MHz		up to 60 MHz	up to 80 MHz
Performance (Dhrystone/2.1 MIPS)	up to 158	up to 211		up to 158	up to 211
Instruction/Data Cache	16 Kbytes				
Static RAM (SRAM)	32 Kbytes				
SDR/DDR SDRAM Controller	•	•	•	•	•
USB 2.0 Host	—	•	•	—	•
USB 2.0 On-the-Go	—	•	•	—	•
Synchronous Serial Interface (SSI)	•	•	•	•	•
Fast Ethernet Controller (FEC)	•	•	•	•	•
Cryptography Hardware Accelerators	—	—	•	•	•
Embedded Voice-over-IP System Solution	—	—	•	—	—
UARTs	3	3	3	3	3
I <sup>2</sup> C	•	•	•	•	•
QSPI	•	•	•	•	•
PWM Module	—	•	•	—	•
Real Time Clock	•	•	•	•	•
32-bit DMA Timers	4	4	4	4	4
Watchdog Timer (WDT)	•	•	•	•	•
Periodic Interrupt Timers (PIT)	4	4	4	4	4
Edge Port Module (EPORT)	•	•	•	•	•
Interrupt Controllers (INTC)	2	2	2	2	2
16-channel Direct Memory Access (DMA)	•	•	•	•	•
FlexBus External Interface	•	•	•	•	•
General Purpose I/O (GPIO)	up to 46	up to 62	up to 62	up to 46	up to 62
JTAG - IEEE® 1149.1 Test Access Port	•	•	•	•	•
Package	160 QFP	196 MAPBGA	196 MAPBGA	160 QFP	196 MAPBGA

## Ordering Information

## 2 Ordering Information

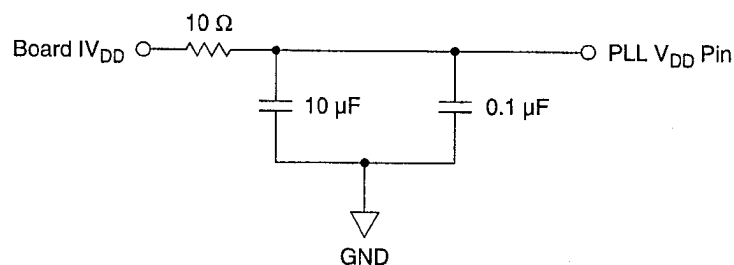
Table 2. Orderable Part Numbers

Freescall Part Number	Description	Package	Speed	Temperature
MCF5372CAB180	MCF5372 RISC Microprocessor	160 QFP	180 MHz	-40° to +85° C
MCF5372LCVM240	MCF5372 RISC Microprocessor	196 MAPBGA	240 MHz	-40° to +85° C
MCF53721CVM240	MCF53721 RISC Microprocessor	196 MAPBGA	240 MHz	-40° to +85° C
MCF5373CAB180	MCF5373 RISC Microprocessor	160 QFP	180 MHz	-40° to +85° C
MCF5373LCVM240	MCF5373 RISC Microprocessor	256 MAPBGA	240 MHz	-40° to +85° C

## 3 Hardware Design Considerations

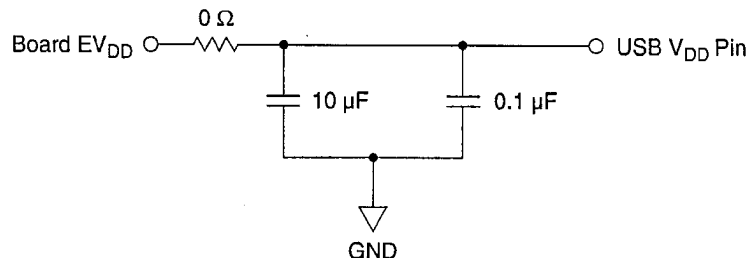
### 3.1 PLL Power Filtering

To further enhance noise isolation, an external filter is strongly recommended for PLL analog  $V_{DD}$  pins. The filter shown in Figure 1 should be connected between the board  $V_{DD}$  and the PLL $V_{DD}$  pins. The resistor and capacitors should be placed as close to the dedicated PLL $V_{DD}$  pin as possible.

Figure 1. System PLL  $V_{DD}$  Power Filter

### 3.2 USB Power Filtering

To minimize noise, external filters are required for each of the USB power pins. The filter shown in Figure 2 should be connected between the board  $EV_{DD}$  or  $IV_{DD}$  and each of the USB $V_{DD}$  pins. The resistor and capacitors should be placed as close to the dedicated USB $V_{DD}$  pin as possible.

Figure 2. USB  $V_{DD}$  Power Filter



**NOTE**

In addition to the above filter circuitry, a 0.01 F capacitor is also recommended in parallel with those shown.

### 3.3 Supply Voltage Sequencing and Separation Cautions

The relationship between  $SDV_{DD}$  and  $EV_{DD}$  is non-critical during power-up and power-down sequences.  $SDV_{DD}$  (2.5V or 3.3V) and  $EV_{DD}$  are specified relative to  $IV_{DD}$ .

#### 3.3.1 Power Up Sequence

If  $EV_{DD}/SDV_{DD}$  are powered up with  $IV_{DD}$  at 0 V, the sense circuits in the I/O pads cause all pad output drivers connected to the  $EV_{DD}/SDV_{DD}$  to be in a high impedance state. There is no limit on how long after  $EV_{DD}/SDV_{DD}$  powers up before  $IV_{DD}$  must powered up.  $IV_{DD}$  should not lead the  $EV_{DD}$ ,  $SDV_{DD}$ , or  $PLL_{DD}$  by more than 0.4 V during power ramp-up or there is high current in the internal ESD protection diodes. The rise times on the power supplies should be slower than 500 us to avoid turning on the internal ESD protection clamp diodes.

#### 3.3.2 Power Down Sequence

If  $IV_{DD}/PLL_{DD}$  are powered down first, sense circuits in the I/O pads cause all output drivers to be in a high impedance state. There is no limit on how long after  $IV_{DD}$  and  $PLL_{DD}$  power down before  $EV_{DD}$  or  $SDV_{DD}$  must power down.  $IV_{DD}$  should not lag  $EV_{DD}$ ,  $SDV_{DD}$ , or  $PLL_{DD}$  going low by more than 0.4 V during power down or there is undesired high current in the ESD protection diodes. There are no requirements for the fall times of the power supplies.

The recommended power down sequence is as follows:

1. Drop  $IV_{DD}/PLL_{DD}$  to 0 V.
2. Drop  $EV_{DD}/SDV_{DD}$  supplies.

## 4 Pin Assignments and Reset States

### 4.1 Signal Multiplexing

The following table lists all the MCF537x pins grouped by function. The Dir column is the direction for the primary function of the pin only. Refer to Section 7, "Package Information," for package diagrams. For a more detailed discussion of the MCF537x signals, consult the *MCF5373 Reference Manual* (MCF5373RM).

**NOTE**

In this table and throughout this document, a single signal within a group is designated without square brackets (i.e., A23), while designations for multiple signals within a group use brackets (i.e., A[23:21]) and is meant to include all signals within the two bracketed numbers when these numbers are separated by a colon.

**NOTE**

The primary functionality of a pin is not necessarily its default functionality. Pins that are muxed with GPIO will default to their GPIO functionality.

## Pin Assignments and Reset States

Table 3. MCF5372/3 Signal Information and Muxing

Signal Name	GPIO	Alternate 1	Alternate 2	Dir. <sup>1</sup>	Voltage Domain	MCF5372 MCF5373 160 QFP	MCF5372L MCF53271 MCF5373L 196 MAPBGA
<b>Reset</b>							
RESET <sup>2</sup>	—	—	—	I	EVDD	95	K13
RSTOUT	—	—	—	O	EVDD	86	L12
<b>Clock</b>							
EXTAL	—	—	—	I	EVDD	91	L14
XTAL <sup>2</sup>	—	—	—	O	EVDD	93	K14
EXTAL32K	—	—	—	I	EVDD	—	P13
XTAL32K	—	—	—	O	EVDD	—	N13
FB_CLK	—	—	—	O	SDVDD	40	N1
<b>Mode Selection</b>							
RCON <sup>2</sup>	—	—	—	I	EVDD	72	P8
DRAMSEL	—	—	—	I	EVDD	92	J11
<b>FlexBus</b>							
A[23:22]	—	FB_CS[5:4]	—	O	SDVDD	134, 133	A9, B9
A[21:16]	—	—	—	O	SDVDD	132–127	C9, D9, A10, B10, C10, D10
A[15:14]	—	SD_BA[1:0] <sup>3</sup>	—	O	SDVDD	126, 123	A11, B11
A[13:11]	—	SD_A[13:11] <sup>3</sup>	—	O	SDVDD	120–118	C11, A12, B12
A10	—	—	—	O	SDVDD	11 7	A13
A[9:0]	—	SD_A[9:0] <sup>3</sup>	—	O	SDVDD	116–107	A14, B14, B13, C12, D11, C14, C13, D14–D12
D[31:16]	—	SD_D[31:16] <sup>4</sup>	—	I/O	SDVDD	27–34, 46–53	J2, J1, K4–K1, L4, L3, N2, P1, P2, N3, L5, P3, N4, P4
D[15:1]	—	FB_D[31:17] <sup>4</sup>	—	I/O	SDVDD	16–23, 57–63	F2, F1, G4–G1, H4, H3, L6, M6, N6, P6, L7, M7, N7
D0 <sup>2</sup>	—	FB_D[16] <sup>4</sup>	—	I/O	SDVDD	64	P7
BE/BWE[3:0]	PBE[3:0]	SD_DQM[3:0] <sup>3</sup>	—	O	SDVDD	26, 54, 24, 56	J3, M5, H2, P5
OE	PBUSCTL3	—	—	O	SDVDD	66	M8
TA <sup>2</sup>	PBUSCTL2	—	—	I	SDVDD	106	E14
R/W	PBUSCTL1	—	—	O	SDVDD	65	L8



## Pin Assignments and Reset States

Table 3. MCF5372/3 Signal Information and Muxing (continued)

Signal Name	GPIO	Alternate 1	Alternate 2	Dir. <sup>1</sup>	Voltage Domain	MCF5372 MCF5373 160 QFP	MCF5372L MCF53271 MCF5373L 196 MAPBGA
TS	PBUSCTL0	DACK0	—	O	SDVDD	12	E2
Chip Selects							
FB_CS[5:4]	PCS[5:4]	—	—	O	SDVDD	—	D8, C8
FB_CS[3:2]	PCS[3:2]	—	—	O	SDVDD	—	B8, A8
FB_CS1	PCS1	—	—	O	SDVDD	135	D7
FB_CS0	—	—	—	O	SDVDD	136	C7
SDRAM Controller							
SD_A10	—	—	—	O	SDVDD	43	M2
SD_CKE	—	—	—	O	SDVDD	14	F4
SD_CLK	—	—	—	O	SDVDD	37	L1
SD_CLK	—	—	—	O	SDVDD	38	M1
SD_CS0	—	—	—	O	SDVDD	15	F3
SD_DQS3	—	—	—	O	SDVDD	25	H1
SD_DQS2	—	—	—	O	SDVDD	55	N5
SD_SCAS	—	—	—	O	SDVDD	44	M3
SD_SRAS	—	—	—	O	SDVDD	45	M4
SD_SDR_DQS	—	—	—	O	SDVDD	35	L2
SD_WE	—	—	—	O	SDVDD	13	E1
External Interrupts Port <sup>5</sup>							
IRQ7 <sup>2</sup>	PIRQ7 <sup>2</sup>	—	—	I	EVDD	102	F13
IRQ6 <sup>2</sup>	PIRQ6 <sup>2</sup>	USBHOST_VBUS_EN <sup>2</sup>	—	I	EVDD	—	F12
IRQ5 <sup>2</sup>	PIRQ5 <sup>2</sup>	USBHOST_VBUS_OC <sup>2</sup>	—	I	EVDD	—	F11
IRQ4 <sup>2</sup>	PIRQ4 <sup>2</sup>	SSI_MCLK <sup>2</sup>	—	I	EVDD	101	G14
IRQ3 <sup>2</sup>	PIRQ3 <sup>2</sup>	—	—	I	EVDD	—	G13
IRQ2 <sup>2</sup>	PIRQ2 <sup>2</sup>	USB_CLKIN <sup>2</sup>	—	I	EVDD	—	G12
IRQ1 <sup>2</sup>	PIRQ1 <sup>2</sup>	DREQ1 <sup>2</sup>	SSI_CLKIN	I	EVDD	100	G11
FEC							
FEC_MDC	PFECI2C3	I2C_SCL <sup>2</sup>	—	O	EVDD	4	B1
FEC_MDIO	PFECI2C2	I2C_SDA <sup>2</sup>	—	I/O	EVDD	3	A1
FEC_COL	PFECH7	—	—	I	EVDD	144	B6
FEC_CRS	PFECH6	—	—	I	EVDD	145	A6

MCF537x ColdFire® Microprocessor Data Sheet, Rev. 2

## Pin Assignments and Reset States

Table 3. MCF5372/3 Signal Information and Muxing (continued)

Signal Name	GPIO	Alternate 1	Alternate 2	Dir. <sup>1</sup>	Voltage Domain	MCF5372 MCF5373 160 QFP	MCF5372L MCF53271 MCF5373L 196 MAPBGA
FEC_RXCLK	PFECH5	—	—	I	EVDD	146	A5
FEC_RXDV	PFECH4	—	—	I	EVDD	147	B5
FEC_RXD[3:0]	PFECH[3:0]	—	—	I	EVDD	148–151	C5, D5, A4, B4
FEC_RXER	PFECL7	—	—	I	EVDD	152	C4
FEC_TXCLK	PFECL6	—	—	I	EVDD	153	A3
FEC_TXEN	PFECL5	—	—	O	EVDD	154	B3
FEC_TXER	PFECL4	—	—	O	EVDD	155	A2
FEC_TXD[3:0]	PFECL[3:0]	—	—	O	EVDD	157, 158, 1, 2	D4, C3, B2, C2
<b>USB Host &amp; USB On-the-Go</b>							
USBOTG_M	—	—	—	I/O	USB VDD	—	H14
USBOTG_P	—	—	—	I/O	USB VDD	—	H13
USBHOST_M	—	—	—	I/O	USB VDD	—	J13
USBHOST_P	—	—	—	I/O	USB VDD	—	J12
<b>PWM</b>							
PWM7	PPWM7	—	—	I/O	EVDD	—	E13
PWM5	PPWM5	—	—	I/O	EVDD	—	E12
PWM3	PPWM3	DT3OUT	DT3IN	I/O	EVDD	—	E11
PWM1	PPWM1	DT2OUT	DT2IN	I/O	EVDD	—	F14
<b>SSI</b>							
The SSI signals do not have dedicated bond pads. Please refer to the following pins for muxing: $\overline{\text{IRQ4}}$ for SSI_MCLK, $\overline{\text{IRQ1}}$ for SSI_CLKIN, U1CTS for SSI_BCLK, U1RTS for SSI_FS, U1RXD for SSI_RXD, and U1TXD for SSI_TXD							
<b>I<sup>2</sup>C</b>							
I2C_SCL <sup>2</sup>	PFECI2C1	—	U2TXD	I/O	EVDD	—	E3
I2C_SDA <sup>2</sup>	PFECI2C0	—	U2RXD	I/O	EVDD	—	E4
<b>DMA</b>							
$\overline{\text{DACK}}[1:0]$ and $\overline{\text{DREQ}}[1:0]$ do not have dedicated bond pads. Please refer to the following pins for muxing: $\overline{\text{TS}}$ for $\overline{\text{DACK0}}$ , DT0IN for $\overline{\text{DREQ0}}$ , DT1IN for $\overline{\text{DACK1}}$ , and $\overline{\text{IRQ1}}$ for $\overline{\text{DREQ1}}$ .							
<b>QSPI</b>							
QSPI_CS2	PQSPI5	U2RTS	—	O	EVDD	78	N12

## Pin Assignments and Reset States

Table 3. MCF5372/3 Signal Information and Muxing (continued)

Signal Name	GPIO	Alternate 1	Alternate 2	Dir. <sup>1</sup>	Voltage Domain	MCF5372 MCF5373 160 QFP	MCF5372L MCF53271 MCF5373L 196 MAPBGA
QSPI_CS1	PQSPI4	PWM7	USBOTG_PU_EN	O	EVDD	—	M12
QSPI_CS0	PQSPI3	PWM5	—	O	EVDD	—	M11
QSPI_CLK	PQSPI2	I2C_SCL <sup>2</sup>	—	O	EVDD	77	P12
QSPI_DIN	PQSPI1	U2CTS	—	I	EVDD	75	P11
QSPI_DOUT	PQSPI0	I2C_SDA <sup>2</sup>	—	O	EVDD	76	N11
<b>UARTs</b>							
U1CTS	PUARTL7	SSI_BCLK	—	I	EVDD	143	C6
U1RTS	PUARTL6	SSI_FS	—	O	EVDD	142	D6
U1TXD	PUARTL5	SSI_TXD <sup>2</sup>	—	O	EVDD	141	A7
U1RXD	PUARTL4	SSI_RXD <sup>2</sup>	—	I	EVDD	140	B7
U0CTS	PUARTL3	—	—	I	EVDD	85	M14
U0RTS	PUARTL2	—	—	O	EVDD	84	M13
U0TXD	PUARTL1	—	—	O	EVDD	83	N14
U0RXD	PUARTL0	—	—	I	EVDD	80	P14
<b>Note:</b> The UART2 signals are multiplexed on the QSPI, DMA Timers, and I2C pins.							
<b>DMA Timers</b>							
DT3IN	PTIMER3	DT3OUT	U2RXD	I	EVDD	8	D1
DT2IN	PTIMER2	DT2OUT	U2TXD	I	EVDD	7	C1
DT1IN	PTIMER1	DT1OUT	DACK1	I	EVDD	6	D2
DT0IN	PTIMER0	DT0OUT	DREQ0 <sup>2</sup>	I	EVDD	5	D3
<b>BDM/JTAG<sup>6</sup></b>							
JTAG_EN <sup>7</sup>	—	—	—	I	EVDD	96	G10
DSCLK	—	TRST <sup>2</sup>	—	I	EVDD	88	K11
PSTCLK	—	TCLK <sup>2</sup>	—	O	EVDD	70	N8
BKPT	—	TMS <sup>2</sup>	—	I	EVDD	87	L13
DSI	—	TDI <sup>2</sup>	—	I	EVDD	90	K12
DSO	—	TDO	—	O	EVDD	74	L11
DDATA[3:0]	—	—	—	O	EVDD	—	L9, M9, N9, P9
PST[3:0]	—	—	—	O	EVDD	—	L10, M10, N10, P10
ALLPST	—	—	—	O	EVDD	73	—

## Pin Assignments and Reset States

Table 3. MCF5372/3 Signal Information and Muxing (continued)

Signal Name	GPIO	Alternate 1	Alternate 2	Dir. <sup>1</sup>	Voltage Domain	MCF5372 MCF5373 160 QFP	MCF5372L MCF53271 MCF5373L 196 MAPBGA
<b>Test</b>							
TEST <sup>7</sup>	—	—	—	I	EVDD	124	E10
<b>Power Supplies</b>							
EVDD	—	—	—	—	—	9, 69, 71, 81, 94, 103, 139, 160	E6, E7, F5–F7, G5, H10, J8, K8–K9
IVDD	—	—	—	—	—	36, 79, 97, 125, 156	E5, J9, K5, K10
PLL_VDD	—	—	—	—	—	99	J10
SD_VDD	—	—	—	—	—	11, 39, 41, 67, 105, 121, 137	E8–E9, F8–F10, J4–J7, H5, K6, K7
USB_VDD	—	—	—	—	—	—	H12
VSS	—	—	—	—	—	10, 42, 68, 82, 89, 104, 122, 138, 159	G6–G9, H6–H9
PLL_VSS	—	—	—	—	—	98	H11
USB_VSS	—	—	—	—	—	—	J14

<sup>1</sup> Refers to pin's primary function.<sup>2</sup> Pull-up enabled internally on this signal for this mode.<sup>3</sup> The SDRAM functions of these signals are not programmable by the user. They are dynamically switched by the processor when accessing SDRAM memory space and are included here for completeness.<sup>4</sup> Primary functionality selected by asserting the DRAMSEL signal (SDR mode). Alternate functionality selected by negating the DRAMSEL signal (DDR mode). The GPIO module is not responsible for assigning these pins.<sup>5</sup> GPIO functionality is determined by the edge port module. The GPIO module is only responsible for assigning the alternate functions.<sup>6</sup> If JTAG\_EN is asserted, these pins default to Alternate 1 (JTAG) functionality. The GPIO module is not responsible for assigning these pins.<sup>7</sup> Pull-down enabled internally on this signal for this mode.

## Pin Assignments and Reset States

## 4.2 Pinout—196 MAPBGA

The pinout for the MCF5373LCVM240, MCF5372LCVM240, and MCF53721CVM240 packages are shown below.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
A	FEC_MDIO	FEC_TXER	FEC_TXCLK	FEC_RXD1	FEC_RXCLK	FEC_CRS	U1TXD	FB_CS2	A23	A19	A15	A12	A10	A9	A
B	FEC_MDC	FEC_TXD1	FEC_TXEN	FEC_RXD0	FEC_RXDV	FEC_COL	U1RXD	FB_CS3	A22/	A18	A14	A11	A7	A8	B
C	DT2IN	FEC_TXD0	FEC_TXD2	FEC_RXER	FEC_RXD3	U1CTS	FB_CS0	FB_CS4	A21	A17	A13	A6	A3	A4	C
D	DT3IN	DT1IN	DT0IN	FEC_TXD3	FEC_RXD2	U1RTS	FB_CS1	FB_CS5	A20	A16	A5	A0	A1	A2	D
E	SD_WE	TS	I2C_SCL	I2C_SDA	IVDD	EVDD	EVDD	SD_VDD	SD_VDD	TEST	PWM3	PWM5	PWM7	TA	E
F	D14	D15	SD_CS0	SD_CKE	EVDD	EVDD	EVDD	SD_VDD	SD_VDD	SD_VDD	IRQ5	IRQ6	IRQ7	PWM1	F
G	D10	D11	D12	D13	EVDD	VSS	VSS	VSS	VSS	JTAG_EN	IRQ1	IRQ2	IRQ3	IRQ4	G
H	SD_DQS3	BE/BWE1	D8	D9	SD_VDD	VSS	VSS	VSS	VSS	EVDD	PLL_VSS	USBOTG_VDD	USB_OTG_P	USB_OTG_M	H
J	D30	D31	BE/BWE3	SD_VDD	SD_VDD	SD_VDD	SD_VDD	EVDD	IVDD	PLL_VDD	DRAM_SEL	USB_HOST_P	USB_HOST_M	USB_HOST_VSS	J
K	D26	D27	D28	D29	IVDD	SD_VDD	SD_VDD	EVDD	EVDD	IVDD	TRST/DSCLK	TDI/DSI	RESET	XTAL	K
L	SD_CLK	SD_DR_DQS	D24	D25	D19	D7	D3	R/W	DDATA3	PST3	TDO/DSO	RSTOUT	TMS/BKPT	EXTAL	L
M	SD_CLK	SD_A10	SD_CAS	SD_RAS	BE/BWE2	D6	D2	OE	DDATA2	PST2	QSPI_CS0	QSPI_CS1	U0RTS	U0CTS	M
N	FB_CLK	D23	D20	D17	SD_DQS2	D5	D1	TCLK/PSTCLK	DDATA1	PST1	QSPI_DOUT	QSPI_CS2	XTAL 32K	U0TXD	N
P	D22	D21	D18	D16	BE/BWE0	D4	D0	RCON	DDATA0	PST0	QSPI_DIN	QSPI_CLK	EXTAL 32K	U0RXD	P
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	

Figure 3. MCF5373LCVM240, MCF5372LCVM240, and MCF53721CVM240 Pinout Top View (196 MAPBGA)

## Pin Assignments and Reset States

## 4.3 Pinout—160 QFP

The pinout for the MCF5372CAB180 and MCF5373CAB180 packages is shown below.

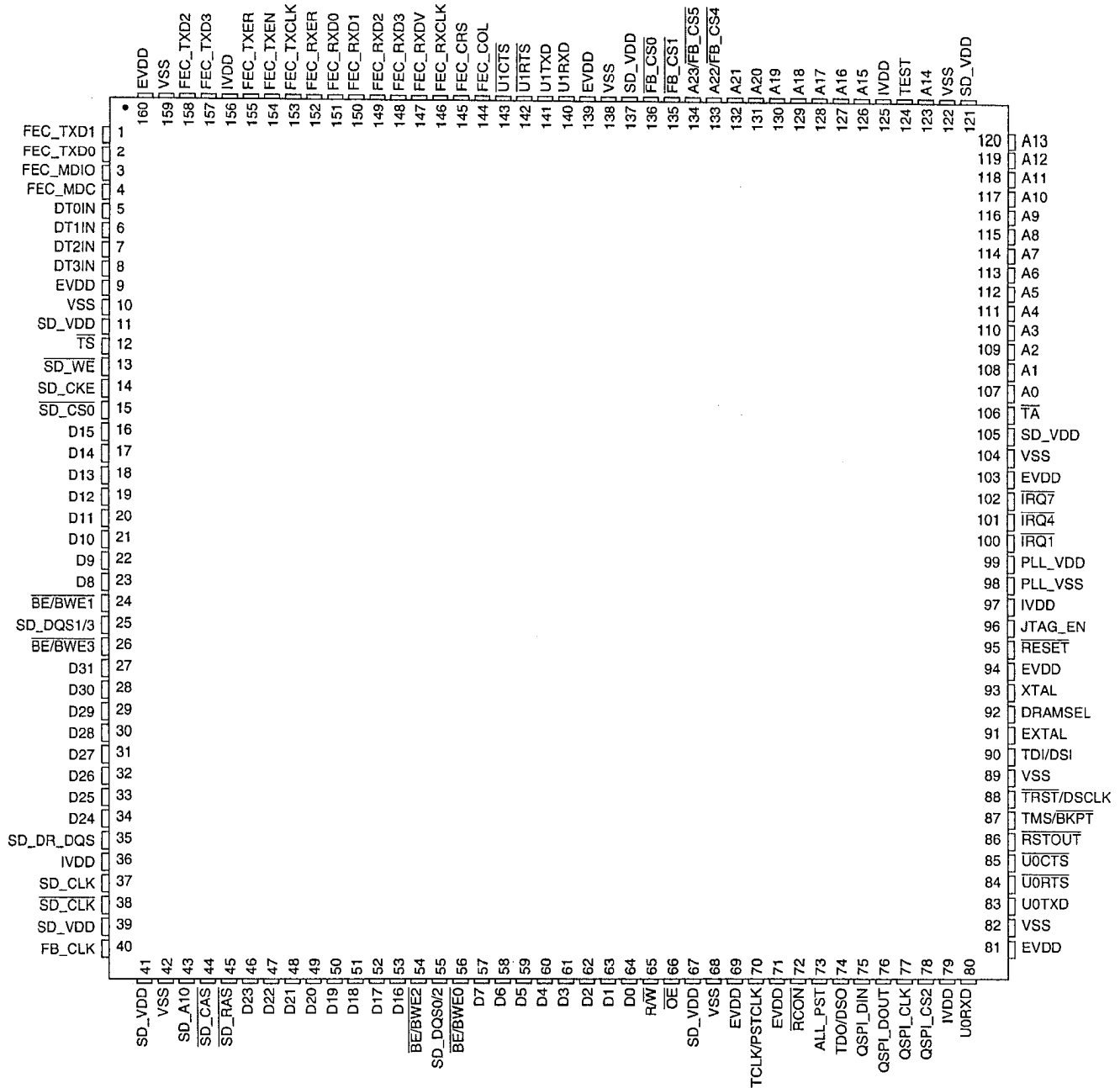


Figure 4. MCF5372CAB180 and MCF5373CAB180 Pinout Top View (160 QFP)



## 5 Electrical Characteristics

This document contains electrical specification tables and reference timing diagrams for the MCF5373 microcontroller unit. This section contains detailed information on power considerations, DC/AC electrical characteristics, and AC timing specifications of MCF5373.

The electrical specifications are preliminary and are from previous designs or design simulations. These specifications may not be fully tested or guaranteed at this early stage of the product life cycle. However, for production silicon, these specifications will be met. Finalized specifications will be published after complete characterization and device qualifications have been completed.

### NOTE

The parameters specified in this MCU document supersede any values found in the module specifications.

### 5.1 Maximum Ratings

Table 4. Absolute Maximum Ratings<sup>1, 2</sup>

Rating	Symbol	Value	Unit
Core Supply Voltage	$IV_{DD}$	– 0.5 to +2.0	V
CMOS Pad Supply Voltage	$EV_{DD}$	– 0.3 to +4.0	V
DDR/Memory Pad Supply Voltage	$SDV_{DD}$	– 0.3 to +4.0	V
PLL Supply Voltage	$PLL_{VDD}$	– 0.3 to +2.0	V
Digital Input Voltage <sup>3</sup>	$V_{IN}$	– 0.3 to +3.6	V
Instantaneous Maximum Current Single pin limit (applies to all pins) <sup>3, 4, 5</sup>	$I_D$	25	mA
Operating Temperature Range (Packaged)	$T_A$ ( $T_L - T_H$ )	– 40 to +85	°C
Storage Temperature Range	$T_{stg}$	– 55 to +150	°C

<sup>1</sup> Functional operating conditions are given in Section 5.4, “DC Electrical Specifications.”

Absolute maximum ratings are stress ratings only, and functional operation at the maxima is not guaranteed. Continued operation at these levels may affect device reliability or cause permanent damage to the device.

<sup>2</sup> This device contains circuitry protecting against damage due to high static voltage or electrical fields; however, it is advised that normal precautions be taken to avoid application of any voltages higher than maximum-rated voltages to this high-impedance circuit. Reliability of operation is enhanced if unused inputs are tied to an appropriate logic voltage level ( $V_{SS}$  or  $EV_{DD}$ ).

<sup>3</sup> Input must be current limited to the value specified. To determine the value of the required current-limiting resistor, calculate resistance values for positive and negative clamp voltages, and then use the larger of the two values.

<sup>4</sup> All functional non-supply pins are internally clamped to  $V_{SS}$  and  $EV_{DD}$ .

<sup>5</sup> Power supply must maintain regulation within operating  $EV_{DD}$  range during instantaneous and operating maximum current conditions. If positive injection current ( $V_{IN} > EV_{DD}$ ) is greater than  $I_{DD}$ , the injection current may flow out of  $EV_{DD}$  and could result in external power supply going out of regulation. Ensure external  $EV_{DD}$  load shunts current greater than maximum injection current. This is the greatest risk when the MCU is not consuming power (ex: no clock). Power supply must maintain regulation within operating  $EV_{DD}$  range during instantaneous and operating maximum current conditions.

## Electrical Characteristics

## 5.2 Thermal Characteristics

Table 5. Thermal Characteristics

Characteristic		Symbol	256MBGA	196MBGA	160QFP	Unit
Junction to ambient, natural convection	Four layer board (2s2p)	$\theta_{JMA}$	37 <sup>1,2</sup>	42 <sup>1,2</sup>	49 <sup>1,2</sup>	°C/W
Junction to ambient (@200 ft/min)	Four layer board (2s2p)	$\theta_{JMA}$	34 <sup>1,2</sup>	38 <sup>1,2</sup>	44 <sup>1,2</sup>	°C/W
Junction to board		$\theta_{JB}$	27 <sup>3</sup>	32 <sup>3</sup>	40 <sup>3</sup>	°C/W
Junction to case		$\theta_{JC}$	16 <sup>4</sup>	19 <sup>4</sup>	39 <sup>4</sup>	°C/W
Junction to top of package		$\Psi_{jt}$	4 <sup>1,5</sup>	5 <sup>1,5</sup>	12 <sup>1,5</sup>	°C/W
Maximum operating junction temperature		$T_j$	105	105	105	°C

<sup>1</sup>  $\theta_{JMA}$  and  $\Psi_{jt}$  parameters are simulated in conformance with EIA/JESD Standard 51-2 for natural convection. Freescale recommends the use of  $\theta_{JMA}$  and power dissipation specifications in the system design to prevent device junction temperatures from exceeding the rated specification. System designers should be aware that device junction temperatures can be significantly influenced by board layout and surrounding devices. Conformance to the device junction temperature specification can be verified by physical measurement in the customer's system using the  $\Psi_{jt}$  parameter, the device power dissipation, and the method described in EIA/JESD Standard 51-2.

<sup>2</sup> Per JEDEC JESD51-6 with the board horizontal.

<sup>3</sup> Thermal resistance between the die and the printed circuit board in conformance with JEDEC JESD51-8. Board temperature is measured on the top surface of the board near the package.

<sup>4</sup> Thermal resistance between the die and the case top surface as measured by the cold plate method (MIL SPEC-883 Method 1012.1).

<sup>5</sup> Thermal characterization parameter indicating the temperature difference between package top and the junction temperature per JEDEC JESD51-2. When Greek letters are not available, the thermal characterization parameter is written in conformance with Psi-JT.

The average chip-junction temperature ( $T_j$ ) in °C can be obtained from:

$$T_j = T_A + (P_D \times \theta_{JMA}) \quad \text{Eqn. 1}$$

Where:

$T_A$	= Ambient Temperature, °C
$\theta_{JMA}$	= Package Thermal Resistance, Junction-to-Ambient, °C/W
$P_D$	= $P_{INT} + P_{I/O}$
$P_{INT}$	= $I_{DD} \times V_{DD}$ , Watts - Chip Internal Power
$P_{I/O}$	= Power Dissipation on Input and Output Pins - User Determined

For most applications  $P_{I/O} < P_{INT}$  and can be ignored. An approximate relationship between  $P_D$  and  $T_j$  (if  $P_{I/O}$  is neglected) is:

$$P_D = \frac{K}{(T_j + 273^\circ\text{C})} \quad \text{Eqn. 2}$$

Solving equations 1 and 2 for K gives:

$$K = P_D \times (T_A + 273^\circ\text{C}) + \theta_{JMA} \times P_D^2 \quad \text{Eqn. 3}$$

where K is a constant pertaining to the particular part. K can be determined from Equation 3 by measuring  $P_D$  (at equilibrium) for a known  $T_A$ . Using this value of K, the values of  $P_D$  and  $T_j$  can be obtained by solving Equation 1 and Equation 2 iteratively for any value of  $T_A$ .



### 5.3 ESD Protection

Table 6. ESD Protection Characteristics<sup>1, 2</sup>

Characteristics	Symbol	Value	Units
ESD Target for Human Body Model	HBM	2000	V

<sup>1</sup> All ESD testing is in conformity with CDF-AEC-Q100 Stress Test Qualification for Automotive Grade Integrated Circuits.

<sup>2</sup> A device is defined as a failure if after exposure to ESD pulses the device no longer meets the device specification requirements. Complete DC parametric and functional testing is performed per applicable device specification at room temperature followed by hot temperature, unless specified otherwise in the device specification.

### 5.4 DC Electrical Specifications

Table 7. DC Electrical Specifications

Characteristic	Symbol	Min	Max	Unit
Core Supply Voltage	$IV_{DD}$	1.4	1.6	V
PLL Supply Voltage	$PLLV_{DD}$	1.4	1.6	V
CMOS Pad Supply Voltage	$EV_{DD}$	3.0	3.6	V
SDRAM and FlexBus Supply Voltage Mobile DDR/Bus Pad Supply Voltage (nominal 1.8V) DDR/Bus Pad Supply Voltage (nominal 2.5V) SDR/Bus Pad Supply Voltage (nominal 3.3V)	$SDV_{DD}$	1.70 2.25 3.0	1.95 2.75 3.6	V
USB Supply Voltage	$USBV_{DD}$	3.0	3.6	V
CMOS Input High Voltage	$EV_{IH}$	2	$EV_{DD} + 0.3$	V
CMOS Input Low Voltage	$EV_{IL}$	$V_{SS} - 0.3$	0.8	V
CMOS Output High Voltage $I_{OH} = -5.0$ mA	$EV_{OH}$	$EV_{DD} - 0.4$	—	V
CMOS Output Low Voltage $I_{OL} = 5.0$ mA	$EV_{OL}$	—	0.4	V
SDRAM and FlexBus Input High Voltage Mobile DDR/Bus Input High Voltage (nominal 1.8V) DDR/Bus Pad Supply Voltage (nominal 2.5V) SDR/Bus Pad Supply Voltage (nominal 3.3V)	$SDV_{IH}$	1.35 1.7 2	$SDV_{DD} + 0.3$ $SDV_{DD} + 0.3$ $SDV_{DD} + 0.3$	V
SDRAM and FlexBus Input Low Voltage Mobile DDR/Bus Input High Voltage (nominal 1.8V) DDR/Bus Pad Supply Voltage (nominal 2.5V) SDR/Bus Pad Supply Voltage (nominal 3.3V)	$SDV_{IL}$	$V_{SS} - 0.3$ $V_{SS} - 0.3$ $V_{SS} - 0.3$	0.45 0.8 0.8	V
SDRAM and FlexBus Output High Voltage Mobile DDR/Bus Input High Voltage (nominal 1.8V) DDR/Bus Pad Supply Voltage (nominal 2.5V) SDR/Bus Pad Supply Voltage (nominal 3.3V) $I_{OH} = -5.0$ mA for all modes	$SDV_{OH}$	$SDV_{DD} - 0.35$ 2.1 2.4	— — —	V

## Electrical Characteristics

Table 7. DC Electrical Specifications (continued)

Characteristic	Symbol	Min	Max	Unit
SDRAM and FlexBus Output Low Voltage Mobile DDR/Bus Input High Voltage (nominal 1.8V) DDR/Bus Pad Supply Voltage (nominal 2.5V) SDR/Bus Pad Supply Voltage (nominal 3.3V) $I_{OL} = 5.0$ mA for all modes	$SDV_{OL}$	— — —	0.3 0.3 0.5	V
Input Leakage Current $V_{in} = V_{DD}$ or $V_{SS}$ , Input-only pins	$I_{in}$	-1.0	1.0	$\mu$ A
Weak Internal Pull-Up Device Current, tested at $V_{IL}$ Max. <sup>1</sup>	$I_{APU}$	-10	-130	$\mu$ A
Input Capacitance <sup>2</sup> All input-only pins All input/output (three-state) pins	$C_{in}$	— —	7 7	pF

<sup>1</sup> Refer to the signals section for pins having weak internal pull-up devices.<sup>2</sup> This parameter is characterized before qualification rather than 100% tested.

## 5.5 Oscillator and PLL Electrical Characteristics

Table 8. PLL Electrical Characteristics

Num	Characteristic	Symbol	Min. Value	Max. Value	Unit
1	PLL Reference Frequency Range Crystal reference External reference	$f_{ref\_crystal}$	12	25 <sup>1</sup>	MHz
		$f_{ref\_ext}$	12	40 <sup>1</sup>	MHz
2	Core frequency CLKOUT Frequency <sup>2</sup>	$f_{sys}$	$488 \times 10^{-6}$	240	MHz
		$f_{sys/3}$	$163 \times 10^{-6}$	80	MHz
3	Crystal Start-up Time <sup>3, 4</sup>	$t_{cst}$	—	10	ms
4	EXTAL Input High Voltage Crystal Mode <sup>5</sup> All other modes (External, Limp)	$V_{IHEXT}$	$V_{XTAL} + 0.4$	—	V
		$V_{IHEXT}$	$E_{VDD}/2 + 0.4$	—	V
5	EXTAL Input Low Voltage Crystal Mode <sup>5</sup> All other modes (External, Limp)	$V_{ILEXT}$	—	$V_{XTAL} - 0.4$	V
		$V_{ILEXT}$	—	$E_{VDD}/2 - 0.4$	V
7	PLL Lock Time <sup>3, 6</sup>	$t_{pll}$	—	50000	CLKIN
8	Duty Cycle of reference <sup>3</sup>	$t_{dc}$	40	60	%
9	XTAL Current	$I_{XTAL}$	1	3	mA
10	Total on-chip stray capacitance on XTAL	$C_{S\_XTAL}$		1.5	pF
11	Total on-chip stray capacitance on EXTAL	$C_{S\_EXTAL}$		1.5	pF
12	Crystal capacitive load	$C_L$		See crystal spec	
13	Discrete load capacitance for XTAL	$C_{L\_XTAL}$		$2 \cdot C_L - C_{S\_XTAL} - C_{PCB\_XTAL}$ <sup>7</sup>	pF

## Electrical Characteristics

Table 8. PLL Electrical Characteristics (continued)

Num	Characteristic	Symbol	Min. Value	Max. Value	Unit
14	Discrete load capacitance for EXTAL	$C_{L\_EXTAL}$		$2 \cdot C_{L\_EXTAL} + C_{S\_EXTAL} + C_{PCB\_EXTAL}$ <sup>7</sup>	pF
17	CLKOUT Period Jitter, <sup>3, 4, 7, 8, 9</sup> Measured at $f_{SYS}$ Max Peak-to-peak Jitter (Clock edge to clock edge) Long Term Jitter	$C_{jitter}$	— —	10 TBD	% $f_{sys}/3$ % $f_{sys}/3$
18	Frequency Modulation Range Limit <sup>3, 10, 11</sup> ( $f_{sys}Max$ must not be exceeded)	$C_{mod}$	0.8	2.2	% $f_{sys}/3$
19	VCO Frequency. $f_{vco} = (f_{ref} \cdot PFD)/4$	$f_{vco}$	350	540	MHz

<sup>1</sup> The maximum allowable input clock frequency when booting with the PLL enabled is 24MHz. For higher input clock frequencies the processor must boot in LIMP mode to avoid violating the maximum allowable CPU frequency.

<sup>2</sup> All internal registers retain data at 0 Hz.

<sup>3</sup> This parameter is guaranteed by characterization before qualification rather than 100% tested.

<sup>4</sup> Proper PC board layout procedures must be followed to achieve specifications.

<sup>5</sup> This parameter is guaranteed by design rather than 100% tested.

<sup>6</sup> This specification is the PLL lock time only and does not include oscillator start-up time.

<sup>7</sup>  $C_{PCB\_EXTAL}$  and  $C_{PCB\_XTAL}$  are the measured PCB stray capacitances on EXTAL and XTAL, respectively.

<sup>8</sup> Jitter is the average deviation from the programmed frequency measured over the specified interval at maximum  $f_{sys}$ . Measurements are made with the device powered by filtered supplies and clocked by a stable external clock signal. Noise injected into the PLL circuitry via PLL  $V_{DD}$ ,  $EV_{DD}$ , and  $V_{SS}$  and variation in crystal oscillator frequency increase the  $C_{jitter}$  percentage for a given interval.

<sup>9</sup> Values are with frequency modulation disabled. If frequency modulation is enabled, jitter is the sum of  $C_{jitter} + C_{mod}$ .

<sup>10</sup> Modulation percentage applies over an interval of 10  $\mu s$ , or equivalently the modulation rate is 100 KHz.

<sup>11</sup> Modulation range determined by hardware design.

## 5.6 External Interface Timing Characteristics

Table 9 lists processor bus input timings.

### NOTE

All processor bus timings are synchronous; that is, input setup/hold and output delay with respect to the rising edge of a reference clock. The reference clock is the FB\_CLK output.

All other timing relationships can be derived from these values. Timings listed in Table 9 are shown in Figure 6 and Figure 7.

## Electrical Characteristics

\* The timings are also valid for inputs sampled on the negative clock edge.

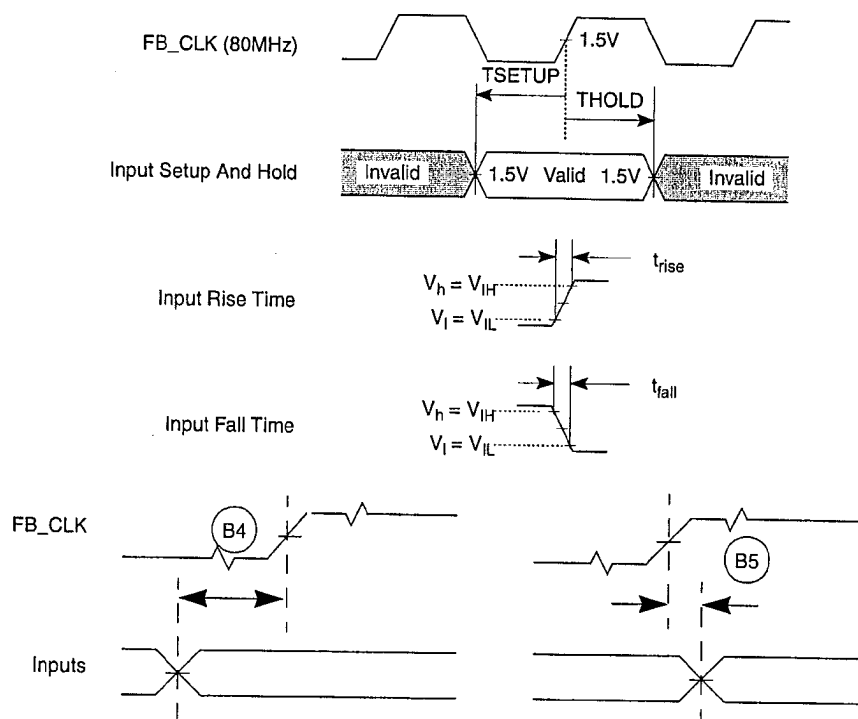


Figure 5. General Input Timing Requirements

## 5.6.1 FlexBus

A multi-function external bus interface called FlexBus is provided with basic functionality to interface to slave-only devices up to a maximum bus frequency of 80MHz. It can be directly connected to asynchronous or synchronous devices such as external boot ROMs, flash memories, gate-array logic, or other simple target (slave) devices with little or no additional circuitry. For asynchronous devices a simple chip-select based interface can be used. The FlexBus interface has six general purpose chip-selects (FB\_CS[5:0]) which can be configured to be distributed between the FlexBus or SDRAM memory interfaces. Chip-select, FB\_CS0 can be dedicated to boot ROM access and can be programmed to be byte (8 bits), word (16 bits), or longword (32 bits) wide. Control signal timing is compatible with common ROM/flash memories.

### 5.6.1.1 FlexBus AC Timing Characteristics

The following timing numbers indicate when data is latched or driven onto the external bus, relative to the system clock.

Table 9. FlexBus AC Timing Specifications

Num	Characteristic	Symbol	Min	Max	Unit
—	Frequency of Operation	$f_{sys/3}$	—	80	Mhz
FB1	Clock Period (FB_CLK)	$t_{FBCK} (t_{cyc})$	12.5	—	ns
FB2	Address, Data, and Control Output Valid (A[23:0], D[31:0], FB_CS[5:0], R/W, TS, BE/BWE[3:0] and OE) <sup>1</sup>	$t_{FBCHDCV}$	—	7.0	ns
FB3	Address, Data, and Control Output Hold (A[23:0], D[31:0], FB_CS[5:0], R/W, TS, BE/BWE[3:0], and OE) <sup>1, 2</sup>	$t_{FBCHDCI}$	1	—	ns

## Electrical Characteristics

Table 9. FlexBus AC Timing Specifications (continued)

Num	Characteristic	Symbol	Min	Max	Unit
FB4	Data Input Setup	$t_{DVF\text{BCH}}$	3.5	—	ns
FB5	Data Input Hold	$t_{DIF\text{BCH}}$	0	—	ns
FB6	Transfer Acknowledge ( $\overline{\text{TA}}$ ) Input Setup	$t_{CV\text{FBCH}}$	4	—	ns
FB7	Transfer Acknowledge ( $\overline{\text{TA}}$ ) Input Hold	$t_{CIF\text{BCH}}$	0	—	ns

<sup>1</sup> Timing for chip selects only applies to the FB\_CS[5:0] signals. Please see Section 5.7.2, "DDR SDRAM AC Timing Characteristics" for SD\_CS[3:0] timing.

<sup>2</sup> The FlexBus supports programming an extension of the address hold. Please consult the *Reference Manual* for more information.

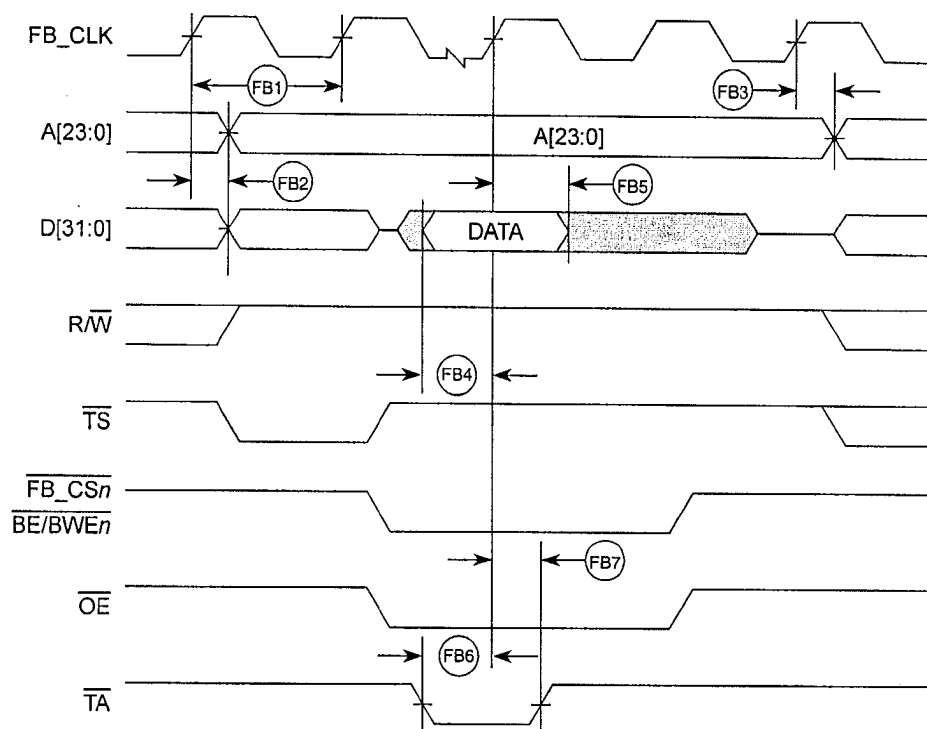


Figure 6. FlexBus Read Timing.

## Electrical Characteristics

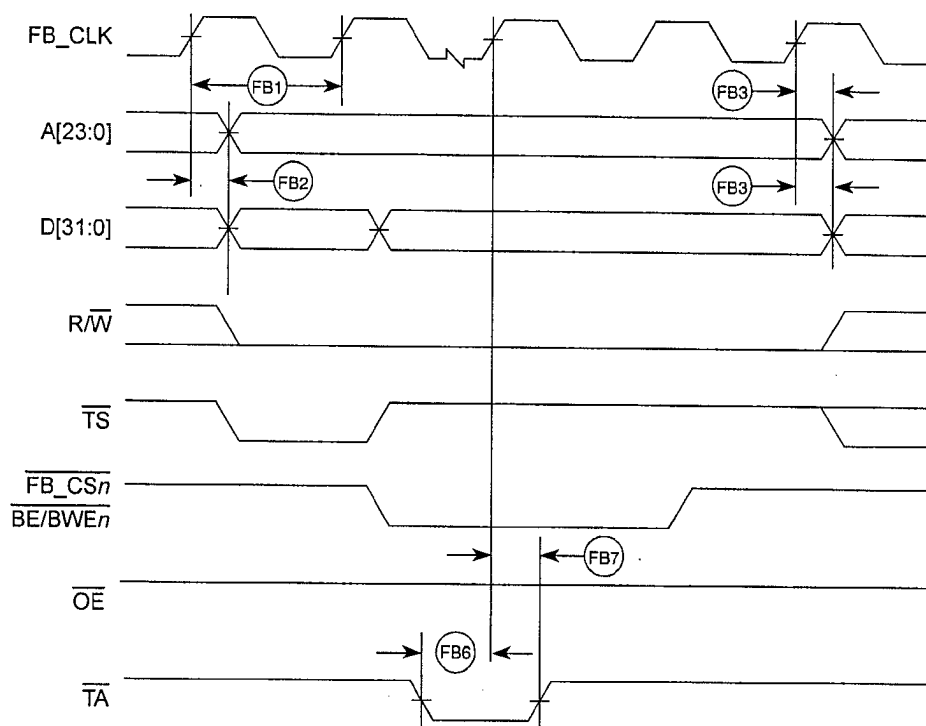


Figure 7. Flexbus Write Timing

## 5.7 SDRAM Bus

The SDRAM controller supports accesses to main SDRAM memory from any internal master. It supports standard SDRAM or double data rate (DDR) SDRAM, but it does not support both at the same time.

### 5.7.1 SDR SDRAM AC Timing Characteristics

The following timing numbers indicate when data is latched or driven onto the external bus, relative to the memory bus clock, when operating in SDR mode on write cycles and relative to SD\_DQS on read cycles. The device's SDRAM controller is a DDR controller that has an SDR mode. Because it is designed to support DDR, a DQS pulse must remain supplied to the device for each data beat of an SDR read. The processor accomplishes this by asserting a signal named SD\_SDR\_DQS during read cycles. Care must be taken during board design to adhere to the following guidelines and specs with regard to the SD\_SDR\_DQS signal and its usage.

Table 10. SDR Timing Specifications

Symbol	Characteristic	Symbol	Min	Max	Unit
•	Frequency of Operation <sup>1</sup>	•	TBD	80	MHz
SD1	Clock Period <sup>2</sup>	t <sub>SDCK</sub>	12.5	TBD	ns
SD3	Pulse Width High <sup>3</sup>	t <sub>SDCKH</sub>	0.45	0.55	SD_CLK
SD4	Pulse Width Low <sup>4</sup>	t <sub>SDCKL</sub>	0.45	0.55	SD_CLK
SD5	Address, SD_CKE, SD_CAS, SD_RAS, SD_WE, SD_BA, SD_CS[1:0] - Output Valid	t <sub>SDCHACV</sub>	—	0.5 × SD_CLK + 1.0	ns

## Electrical Characteristics

Table 10. SDR Timing Specifications (continued)

Symbol	Characteristic	Symbol	Min	Max	Unit
SD6	Address, SD_CKE, SD_CAS, SD_RAS, SD_WE, SD_BA, SD_CS[1:0] - Output Hold	$t_{SDCHACI}$	2.0	—	ns
SD7	SD_SDR_DQS Output Valid <sup>5</sup>	$t_{DQSOV}$	—	Self timed	ns
SD8	SD_DQS[3:0] input setup relative to SD_CLK <sup>6</sup>	$t_{DQVSDCH}$	$0.25 \times SD\_CLK$	$0.40 \times SD\_CLK$	ns
SD9	SD_DQS[3:2] input hold relative to SD_CLK <sup>7</sup>	$t_{DQISDCH}$	Does not apply. $0.5 \times SD\_CLK$ fixed width.		
SD10	Data (D[31:0]) Input Setup relative to SD_CLK (reference only) <sup>8</sup>	$t_{DVSDCH}$	$0.25 \times SD\_CLK$	—	ns
SD11	Data Input Hold relative to SD_CLK (reference only)	$t_{DISDCH}$	1.0	—	ns
SD12	Data (D[31:0]) and Data Mask (SD_DQM[3:0]) Output Valid	$t_{SDCHDMV}$	—	$0.75 \times SD\_CLK + 0.5$	ns
SD13	Data (D[31:0]) and Data Mask (SD_DQM[3:0]) Output Hold	$t_{SDCHDMI}$	1.5	—	ns

<sup>1</sup> The FlexBus and SDRAM clock operates at the same frequency of the internal bus clock. See the PLL chapter of the *MCF5373 Reference Manual* for more information on setting the SDRAM clock rate.

<sup>2</sup> SD\_CLK is one SDRAM clock in (ns).

<sup>3</sup> Pulse width high plus pulse width low cannot exceed min and max clock period.

<sup>4</sup> Pulse width high plus pulse width low cannot exceed min and max clock period.

<sup>5</sup> SD\_DQS is designed to pulse 0.25 clock before the rising edge of the memory clock. This is a guideline only. Subtle variation from this guideline is expected. SD\_DQS only pulses during a read cycle and one pulse occurs for each data beat.

<sup>6</sup> SDR\_DQS is designed to pulse 0.25 clock before the rising edge of the memory clock. This spec is a guideline only. Subtle variation from this guideline is expected. SDR\_DQS only pulses during a read cycle and one pulse occurs for each data beat.

<sup>7</sup> The SDR\_DQS pulse is designed to be 0.5 clock in width. The timing of the rising edge is most important. The falling edge does not affect the memory controller.

<sup>8</sup> Because a read cycle in SDR mode uses the DQS circuit within the device, it is most critical that the data valid window be centered 1/4 clk after the rising edge of DQS. Ensuring that this happens results in successful SDR reads. The input setup spec is provided as guidance.



## Electrical Characteristics

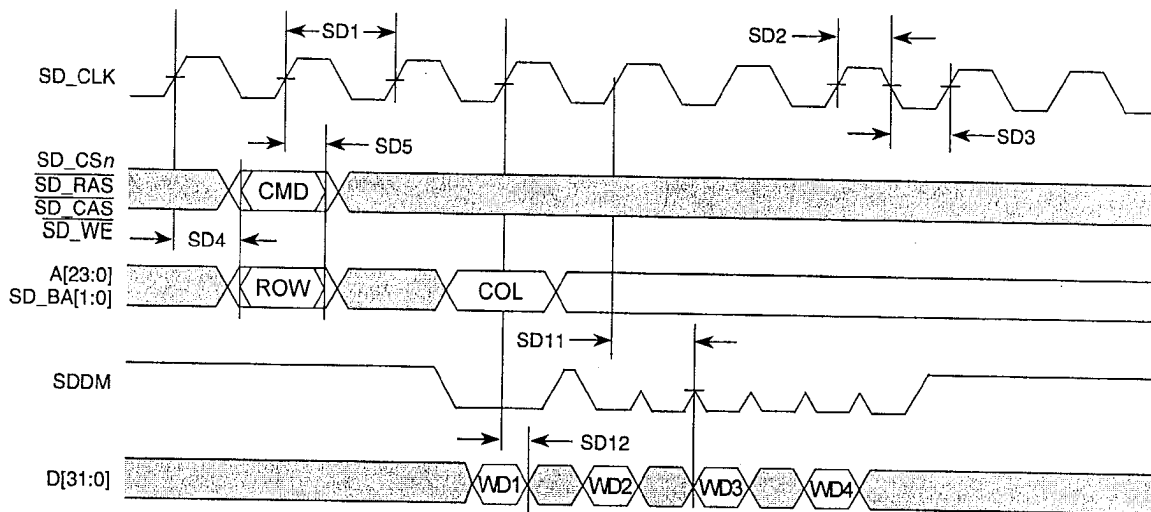


Figure 8. SDR Write Timing

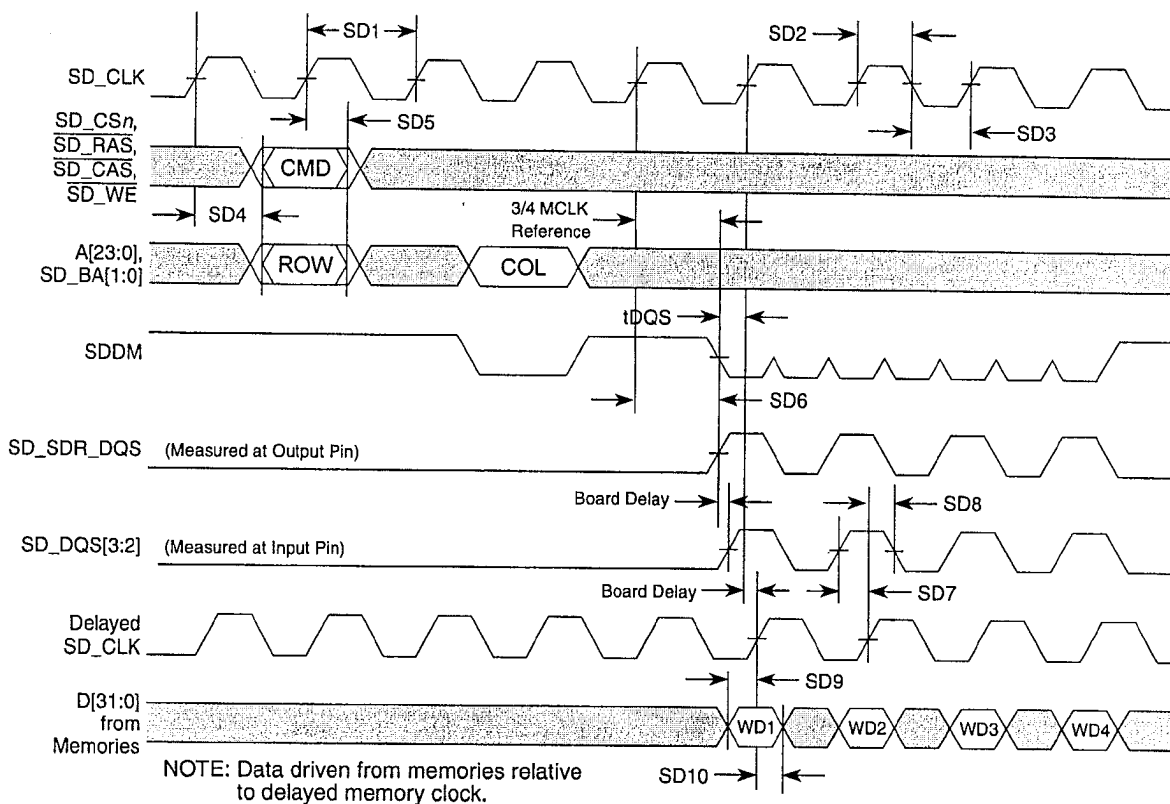


Figure 9. SDR Read Timing



## Electrical Characteristics

## 5.7.2 DDR SDRAM AC Timing Characteristics

When using the SDRAM controller in DDR mode, the following timing numbers must be followed to properly latch or drive data onto the memory bus. All timing numbers are relative to the four DQS byte lanes.

Table 11. DDR Timing Specifications

Num	Characteristic	Symbol	Min	Max	Unit
•	Frequency of Operation	$t_{DDCK}$	TBD	80	Mhz
DD1	Clock Period <sup>1</sup>	$t_{DDSK}$	12.5	TBD	ns
DD2	Pulse Width High <sup>2</sup>	$t_{DDCKH}$	0.45	0.55	SD_CLK
DD3	Pulse Width Low <sup>3</sup>	$t_{DDCKL}$	0.45	0.55	SD_CLK
DD4	Address, SD_CKE, SD_CAS, SD_RAS, SD_WE, SD_CS[1:0] - Output Valid <sup>3</sup>	$t_{SDCHACV}$	—	$0.5 \times \text{SD\_CLK} + 1.0$	ns
DD5	Address, SD_CKE, SD_CAS, SD_RAS, SD_WE, SD_CS[1:0] - Output Hold	$t_{SDCHACI}$	2.0	—	ns
DD6	Write Command to first DQS Latching Transition	$t_{CMDVDQ}$	—	1.25	SD_CLK
DD7	Data and Data Mask Output Setup (DQ-->DQS) Relative to DQS (DDR Write Mode) <sup>4, 5</sup>	$t_{DQDMV}$	1.5	—	ns
DD8	Data and Data Mask Output Hold (DQS-->DQ) Relative to DQS (DDR Write Mode) <sup>6</sup>	$t_{DQDMI}$	1.0	—	ns
DD9	Input Data Skew Relative to DQS (Input Setup) <sup>7</sup>	$t_{DVDQ}$	—	1	ns
DD10	Input Data Hold Relative to DQS <sup>8</sup>	$t_{DIDQ}$	$0.25 \times \text{SD\_CLK} + 0.5\text{ns}$	—	ns
DD11	DQS falling edge from SDCLK rising (output hold time)	$t_{DQLSDCH}$	0.5	—	ns
DD12	DQS input read preamble width	$t_{DQRPRE}$	0.9	1.1	SD_CLK
DD13	DQS input read postamble width	$t_{DQRPST}$	0.4	0.6	SD_CLK
DD14	DQS output write preamble width	$t_{DQWPRE}$	0.25	—	SD_CLK
DD15	DQS output write postamble width	$t_{DQWPST}$	0.4	0.6	SD_CLK

<sup>1</sup> SD\_CLK is one SDRAM clock in (ns).

<sup>2</sup> Pulse width high plus pulse width low cannot exceed min and max clock period.

<sup>3</sup> Command output valid should be 1/2 the memory bus clock (SD\_CLK) plus some minor adjustments for process, temperature, and voltage variations.

<sup>4</sup> This specification relates to the required input setup time of today's DDR memories. The processor's output setup should be larger than the input setup of the DDR memories. If it is not larger, the input setup on the memory is in violation. MEM\_DATA[31:24] is relative to MEM\_DQS[3], MEM\_DATA[23:16] is relative to MEM\_DQS[2], MEM\_DATA[15:8] is relative to MEM\_DQS[1], and MEM\_[7:0] is relative MEM\_DQS[0].

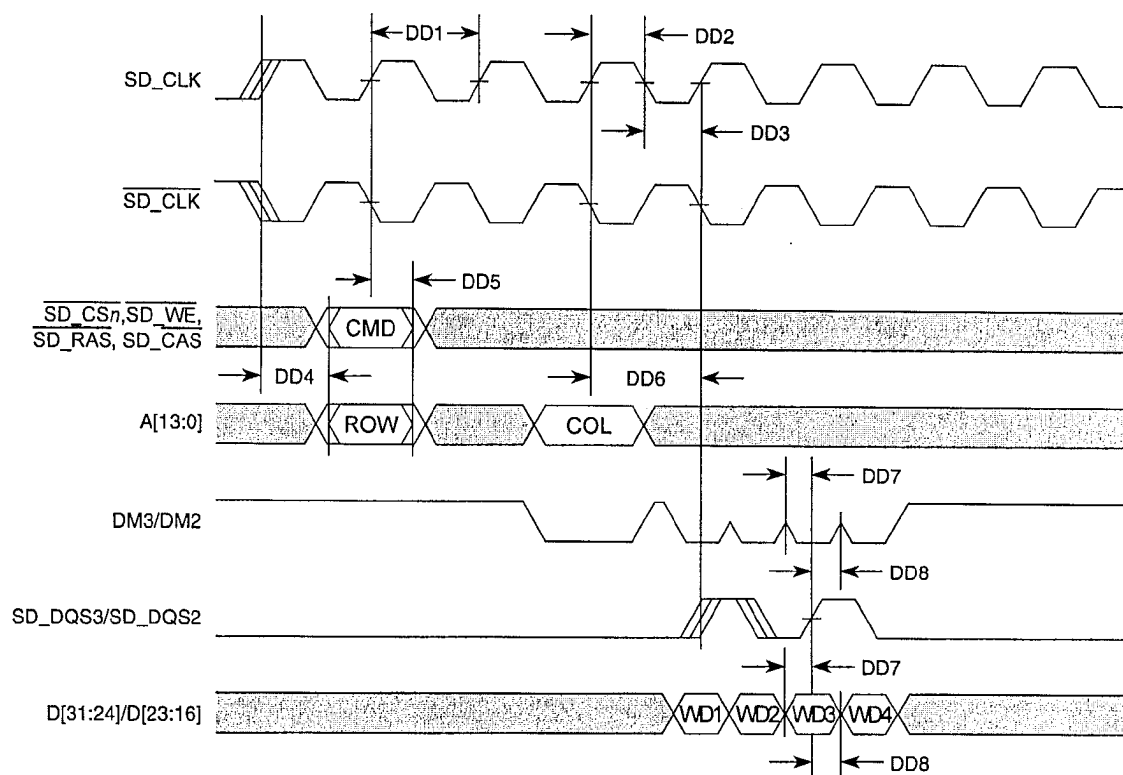
<sup>5</sup> The first data beat is valid before the first rising edge of DQS and after the DQS write preamble. The remaining data beats are valid for each subsequent DQS edge.

<sup>6</sup> This specification relates to the required hold time of today's DDR memories. MEM\_DATA[31:24] is relative to MEM\_DQS[3], MEM\_DATA[23:16] is relative to MEM\_DQS[2], MEM\_DATA[15:8] is relative to MEM\_DQS[1], and MEM\_[7:0] is relative MEM\_DQS[0].

<sup>7</sup> Data input skew is derived from each DQS clock edge. It begins with a DQS transition and ends when the last data line becomes valid. This input skew must include DDR memory output skew and system level board skew (due to routing or other factors).

**Electrical Characteristics**

- <sup>8</sup> Data input hold is derived from each DQS clock edge. It begins with a DQS transition and ends when the first data line becomes invalid.



**Figure 10. DDR Write Timing**

## Electrical Characteristics

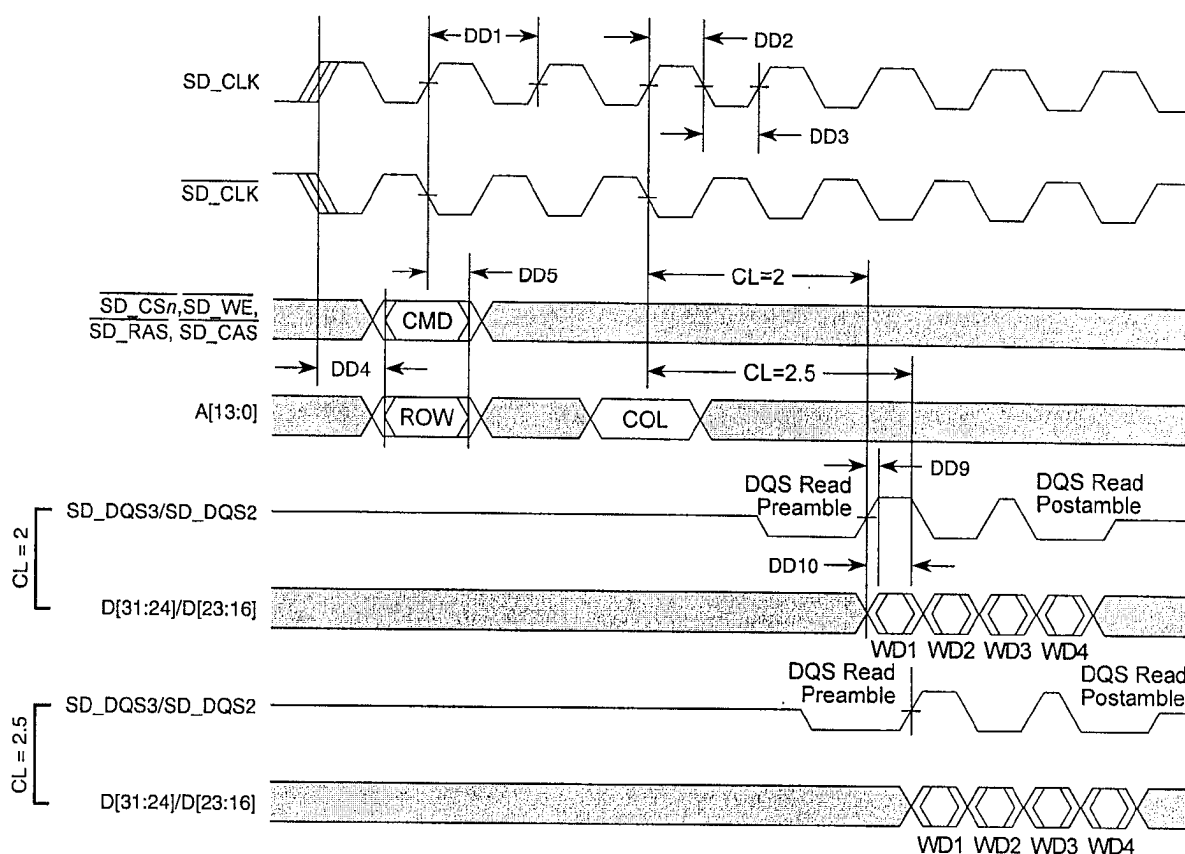


Figure 11. DDR Read Timing

## 5.8 General Purpose I/O Timing

Table 12. GPIO Timing<sup>1</sup>

Num	Characteristic	Symbol	Min	Max	Unit
G1	FB_CLK High to GPIO Output Valid	$t_{CHPOV}$	—	10	ns
G2	FB_CLK High to GPIO Output Invalid	$t_{CHPOI}$	1.5	—	ns
G3	GPIO Input Valid to FB_CLK High	$t_{PVCH}$	9	—	ns
G4	FB_CLK High to GPIO Input Invalid	$t_{CHPI}$	1.5	—	ns

<sup>1</sup> GPIO pins include:  $\overline{IRQn}$ , PWM, UART, and Timer pins.

## Electrical Characteristics

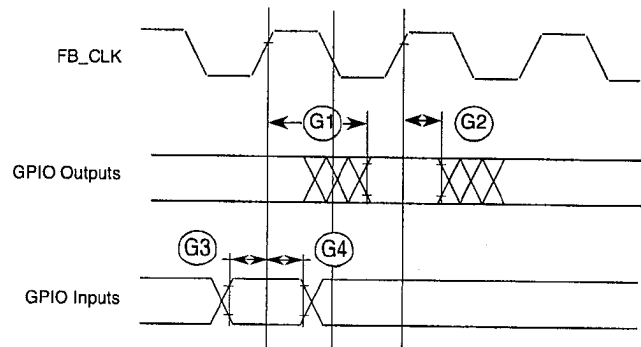


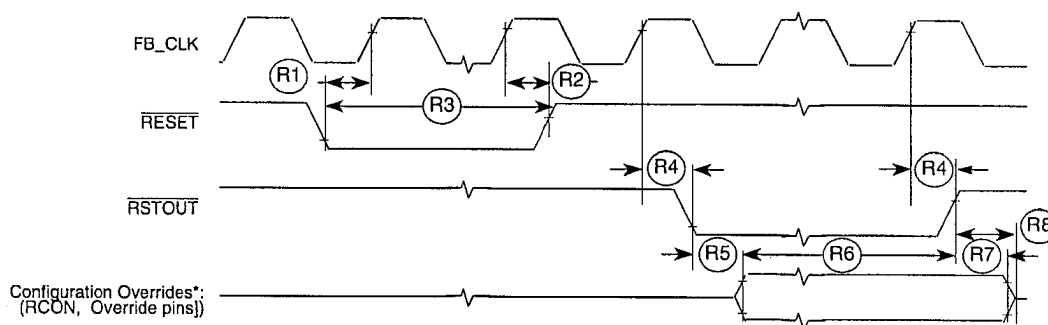
Figure 12. GPIO Timing

## 5.9 Reset and Configuration Override Timing

Table 13. Reset and Configuration Override Timing

Num	Characteristic	Symbol	Min	Max	Unit
R1	$\overline{\text{RESET}}$ Input valid to FB_CLK High	$t_{RVCH}$	9	—	ns
R2	FB_CLK High to $\overline{\text{RESET}}$ Input invalid	$t_{CHRI}$	1.5	—	ns
R3	$\overline{\text{RESET}}$ Input valid Time <sup>1</sup>	$t_{RIVT}$	5	—	$t_{CYC}$
R4	FB_CLK High to $\overline{\text{RSTOUT}}$ Valid	$t_{CHROV}$	—	10	ns
R5	$\overline{\text{RSTOUT}}$ valid to Config. Overrides valid	$t_{ROVCV}$	0	—	ns
R6	Configuration Override Setup Time to $\overline{\text{RSTOUT}}$ invalid	$t_{COS}$	20	—	$t_{CYC}$
R7	Configuration Override Hold Time after $\overline{\text{RSTOUT}}$ invalid	$t_{COH}$	0	—	ns
R8	$\overline{\text{RSTOUT}}$ invalid to Configuration Override High Impedance	$t_{ROICZ}$	—	1	$t_{CYC}$

<sup>1</sup> During low power STOP, the synchronizers for the  $\overline{\text{RESET}}$  input are bypassed and  $\overline{\text{RESET}}$  is asserted asynchronously to the system. Thus,  $\overline{\text{RESET}}$  must be held a minimum of 100 ns.

Figure 13.  $\overline{\text{RESET}}$  and Configuration Override Timing

## NOTE

Refer to the CCM chapter of the *MCF5373 Reference Manual* for more information.

## Electrical Characteristics

## 5.10 USB On-The-Go

The MCF5373 device is compliant with industry standard USB 2.0 specification.

## 5.11 SSI Timing Specifications

This section provides the AC timings for the SSI in master (clocks driven) and slave modes (clocks input). All timings are given for non-inverted serial clock polarity (SSI\_TCR[TSCCKP] = 0, SSI\_RCR[RSCKP] = 0) and a non-inverted frame sync (SSI\_TCR[TFSI] = 0, SSI\_RCR[RFSI] = 0). If the polarity of the clock and/or the frame sync have been inverted, all the timings remain valid by inverting the clock signal (SSI\_BCLK) and/or the frame sync (SSI\_FS) shown in the figures below.

**Table 14. SSI Timing – Master Modes<sup>1</sup>**

Num	Description	Symbol	Min	Max	Units
S1	SSI_MCLK cycle time <sup>2</sup>	$t_{MCLK}$	$8 \times t_{SYS}$	—	ns
S2	SSI_MCLK pulse width high / low		45%	55%	$t_{MCLK}$
S3	SSI_BCLK cycle time <sup>3</sup>	$t_{BCLK}$	$8 \times t_{SYS}$	—	ns
S4	SSI_BCLK pulse width		45%	55%	$t_{BCLK}$
S5	SSI_BCLK to SSI_FS output valid		—	15	ns
S6	SSI_BCLK to SSI_FS output invalid		-2	—	ns
S7	SSI_BCLK to SSI_TXD valid		—	15	ns
S8	SSI_BCLK to SSI_TXD invalid / high impedance		-4	—	ns
S9	SSI_RXD / SSI_FS input setup before SSI_BCLK		15	—	ns
S10	SSI_RXD / SSI_FS input hold after SSI_BCLK		0	—	ns

<sup>1</sup> All timings specified with a capacitive load of 25pF.

<sup>2</sup> SSI\_MCLK can be generated from SSI\_CLKIN or a divided version of the internal system clock (SYSCLK).

<sup>3</sup> SSI\_BCLK can be derived from SSI\_CLKIN or a divided version of SYSCLK. If the SYSCLK is used, the minimum divider is 6. If the SSI\_CLKIN input is used, the programmable dividers must be set to ensure that SSI\_BCLK does not exceed  $4 \times f_{SYS}$ .

**Table 15. SSI Timing – Slave Modes<sup>1</sup>**

Num	Description	Symbol	Min	Max	Units
S11	SSI_BCLK cycle time	$t_{BCLK}$	$8 \times t_{SYS}$	—	ns
S12	SSI_BCLK pulse width high/low		45%	55%	$t_{BCLK}$
S13	SSI_FS input setup before SSI_BCLK		10	—	ns
S14	SSI_FS input hold after SSI_BCLK		3	—	ns
S15	SSI_BCLK to SSI_TXD/SSI_FS output valid		—	15	ns
S16	SSI_BCLK to SSI_TXD/SSI_FS output invalid/high impedance		-2	—	ns
S17	SSI_RXD setup before SSI_BCLK		10	—	ns
S18	SSI_RXD hold after SSI_BCLK		3	—	ns

<sup>1</sup> All timings specified with a capacitive load of 25pF.

## Electrical Characteristics

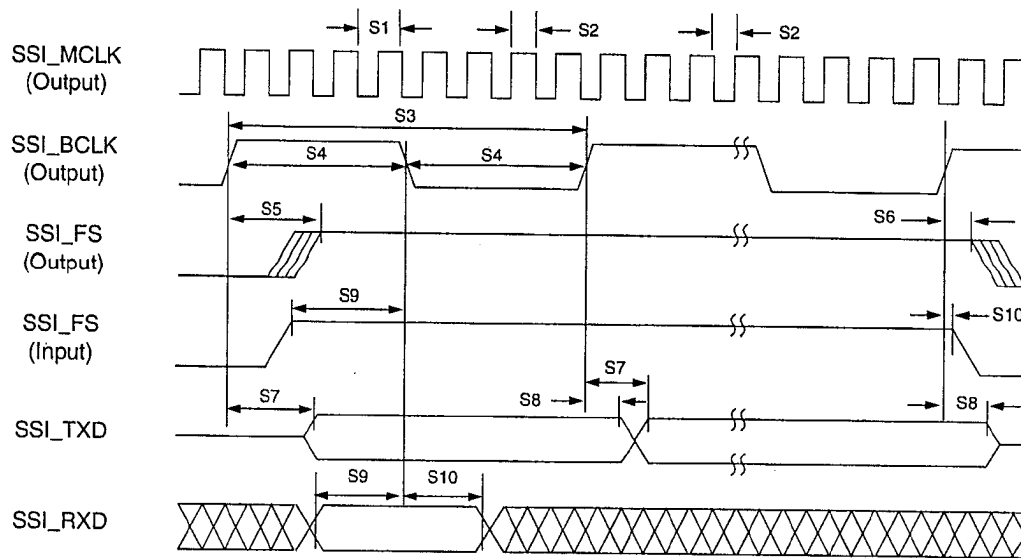


Figure 14. SSI Timing – Master Modes

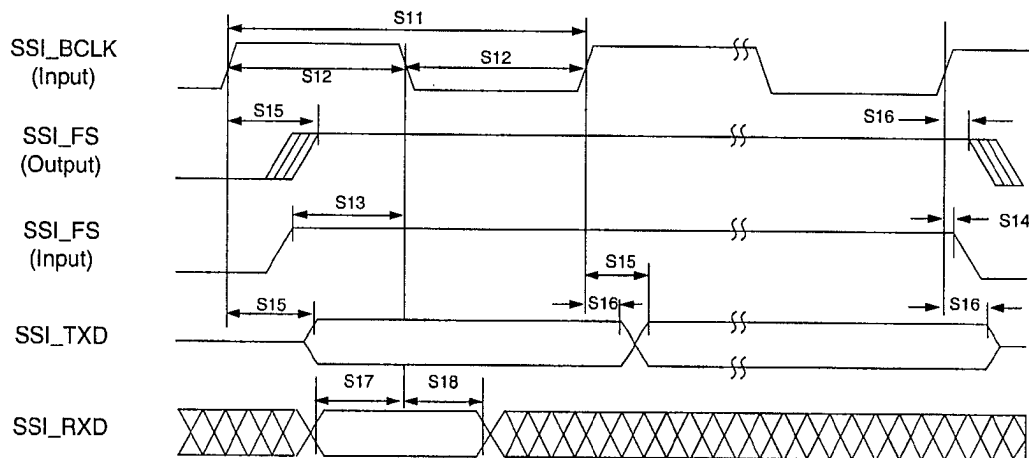


Figure 15. SSI Timing – Slave Modes

## 5.12 I<sup>2</sup>C Input/Output Timing Specifications

Table 16 lists specifications for the I<sup>2</sup>C input timing parameters shown in Figure 16.

Table 16. I<sup>2</sup>C Input Timing Specifications between SCL and SDA

Num	Characteristic	Min	Max	Units
I1	Start condition hold time	2	—	t <sub>cyc</sub>
I2	Clock low period	8	—	t <sub>cyc</sub>
I3	I <sup>2</sup> C_SCL/I <sup>2</sup> C_SDA rise time (V <sub>IL</sub> = 0.5 V to V <sub>IH</sub> = 2.4 V)	—	1	ms
I4	Data hold time	0	—	ns

## Electrical Characteristics

Table 16. I<sup>2</sup>C Input Timing Specifications between SCL and SDA (continued)

Num	Characteristic	Min	Max	Units
I5	I2C_SCL/I2C_SDA fall time ( $V_{IH} = 2.4$ V to $V_{IL} = 0.5$ V)	—	1	ms
I6	Clock high time	4	—	$t_{cyc}$
I7	Data setup time	0	—	ns
I8	Start condition setup time (for repeated start condition only)	2	—	$t_{cyc}$
I9	Stop condition setup time	2	—	$t_{cyc}$

Table 17 lists specifications for the I<sup>2</sup>C output timing parameters shown in Figure 16.

Table 17. I<sup>2</sup>C Output Timing Specifications between SCL and SDA

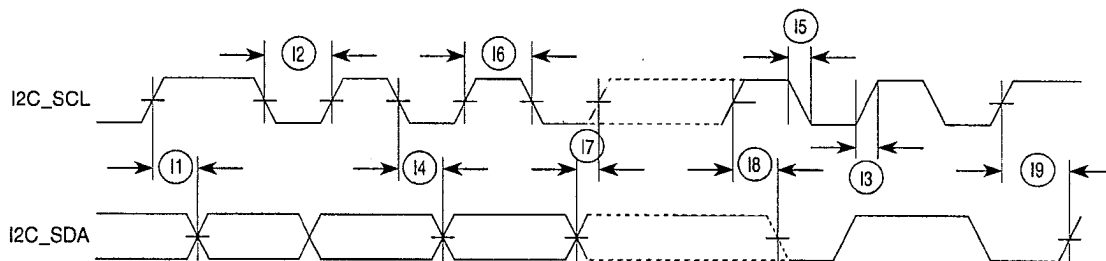
Num	Characteristic	Min	Max	Units
I1 <sup>1</sup>	Start condition hold time	6	—	$t_{cyc}$
I2 <sup>1</sup>	Clock low period	10	—	$t_{cyc}$
I3 <sup>2</sup>	I2C_SCL/I2C_SDA rise time ( $V_{IL} = 0.5$ V to $V_{IH} = 2.4$ V)	—	—	$\mu$ s
I4 <sup>1</sup>	Data hold time	7	—	$t_{cyc}$
I5 <sup>3</sup>	I2C_SCL/I2C_SDA fall time ( $V_{IH} = 2.4$ V to $V_{IL} = 0.5$ V)	—	3	ns
I6 <sup>1</sup>	Clock high time	10	—	$t_{cyc}$
I7 <sup>1</sup>	Data setup time	2	—	$t_{cyc}$
I8 <sup>1</sup>	Start condition setup time (for repeated start condition only)	20	—	$t_{cyc}$
I9 <sup>1</sup>	Stop condition setup time	10	—	$t_{cyc}$

<sup>1</sup> Output numbers depend on the value programmed into the IFDR; an IFDR programmed with the maximum frequency (IFDR = 0x20) results in minimum output timings as shown in Table 17. The I<sup>2</sup>C interface is designed to scale the actual data transition time to move it to the middle of the SCL low period. The actual position is affected by the prescale and division values programmed into the IFDR; however, the numbers given in Table 17 are minimum values.

<sup>2</sup> Because I2C\_SCL and I2C\_SDA are open-collector-type outputs, which the processor can only actively drive low, the time I2C\_SCL or I2C\_SDA take to reach a high level depends on external signal capacitance and pull-up resistor values.

<sup>3</sup> Specified at a nominal 50-pF load.

Figure 16 shows timing for the values in Table 17 and Table 16.

Figure 16. I<sup>2</sup>C Input/Output Timings



## Electrical Characteristics

### 5.13 Fast Ethernet AC Timing Specifications

MII signals use TTL signal levels compatible with devices operating at 5.0 V or 3.3 V.

#### 5.13.1 MII Receive Signal Timing

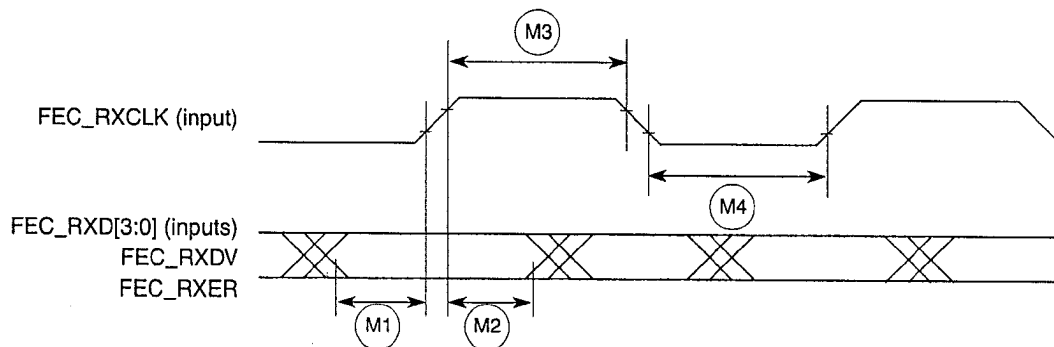
The receiver functions correctly up to a FEC\_RXCLK maximum frequency of 25 MHz +1%. The processor clock frequency must exceed twice the FEC\_RXCLK frequency.

Table 18 lists MII receive channel timings.

**Table 18. MII Receive Signal Timing**

Num	Characteristic	Min	Max	Unit
M1	FEC_RXD[3:0], FEC_RXDV, FEC_RXER to FEC_RXCLK setup	5	—	ns
M2	FEC_RXCLK to FEC_RXD[3:0], FEC_RXDV, FEC_RXER hold	5	—	ns
M3	FEC_RXCLK pulse width high	35%	65%	FEC_RXCLK period
M4	FEC_RXCLK pulse width low	35%	65%	FEC_RXCLK period

Figure 17 shows MII receive signal timings listed in Table 18.



**Figure 17. MII Receive Signal Timing Diagram**

#### 5.13.2 MII Transmit Signal Timing

Table 19 lists MII transmit channel timings.

The transmitter functions correctly up to a FEC\_TXCLK maximum frequency of 25 MHz +1%. The processor clock frequency must exceed twice the FEC\_TXCLK frequency.

**Table 19. MII Transmit Signal Timing**

Num	Characteristic	Min	Max	Unit
M5	FEC_TXCLK to FEC_TXD[3:0], FEC_TXEN, FEC_TXER invalid	5	—	ns
M6	FEC_TXCLK to FEC_TXD[3:0], FEC_TXEN, FEC_TXER valid	—	25	ns
M7	FEC_TXCLK pulse width high	35%	65%	FEC_TXCLK period
M8	FEC_TXCLK pulse width low	35%	65%	FEC_TXCLK period

Figure 18 shows MII transmit signal timings listed in Table 19.



## Electrical Characteristics

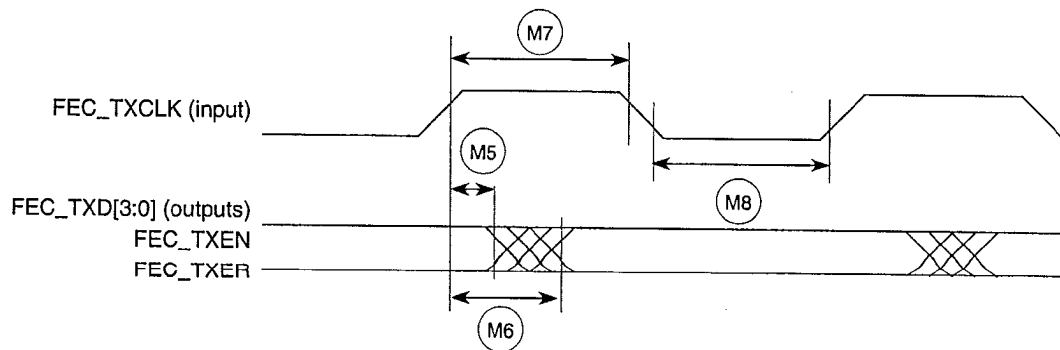


Figure 18. MII Transmit Signal Timing Diagram

### 5.13.3 MII Async Inputs Signal Timing

Table 20 lists MII asynchronous inputs signal timing.

Table 20. MII Async Inputs Signal Timing

Num	Characteristic	Min	Max	Unit
M9	FEC_CRD, FEC_COL minimum pulse width	1.5	—	FEC_TXCLK period

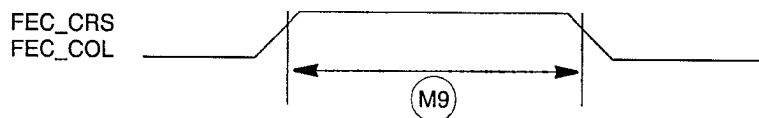


Figure 19. MII Async Inputs Timing Diagram

### 5.13.4 MII Serial Management Channel Timing

Table 21 lists MII serial management channel timings. The FEC functions correctly with a maximum MDC frequency of 2.5 MHz.

Table 21. MII Serial Management Channel Timing

Num	Characteristic	Min	Max	Unit
M10	FEC_MDC falling edge to FEC_MDIO output invalid (minimum propagation delay)	0	—	ns
M11	FEC_MDC falling edge to FEC_MDIO output valid (max prop delay)	—	25	ns
M12	FEC_MDIO (input) to FEC_MDC rising edge setup	10	—	ns
M13	FEC_MDIO (input) to FEC_MDC rising edge hold	0	—	ns
M14	FEC_MDC pulse width high	40%	60%	FEC_MDC period
M15	FEC_MDC pulse width low	40%	60%	FEC_MDC period

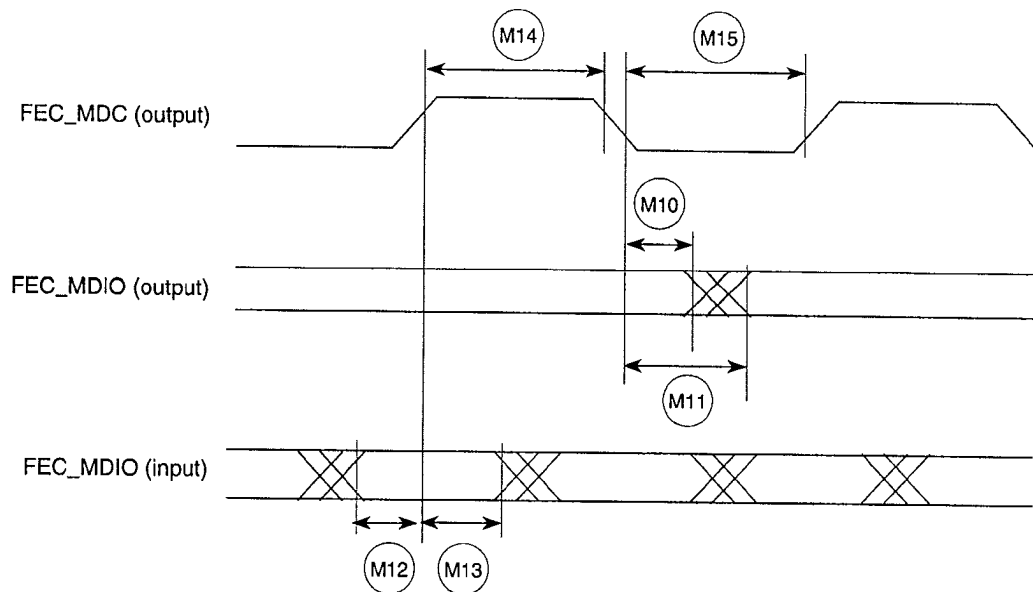
**Electrical Characteristics****Figure 20. MII Serial Management Channel Timing Diagram****5.14 32-Bit Timer Module Timing Specifications**

Table 22 lists timer module AC timings.

**Table 22. Timer Module AC Timing Specifications**

Name	Characteristic	Min	Max	Unit
T1	DT0IN / DT1IN / DT2IN / DT3IN cycle time	3	—	$t_{CYC}$
T2	DT0IN / DT1IN / DT2IN / DT3IN pulse width	1	—	$t_{CYC}$

**5.15 QSPI Electrical Specifications**

Table 23 lists QSPI timings.

**Table 23. QSPI Modules AC Timing Specifications**

Name	Characteristic	Min	Max	Unit
QS1	QSPI_CS[3:0] to QSPI_CLK	1	510	$t_{CYC}$
QS2	QSPI_CLK high to QSPI_DOUT valid.	—	10	ns
QS3	QSPI_CLK high to QSPI_DOUT invalid. (Output hold)	2	—	ns
QS4	QSPI_DIN to QSPI_CLK (Input setup)	9	—	ns
QS5	QSPI_DIN to QSPI_CLK (Input hold)	9	—	ns

## Electrical Characteristics

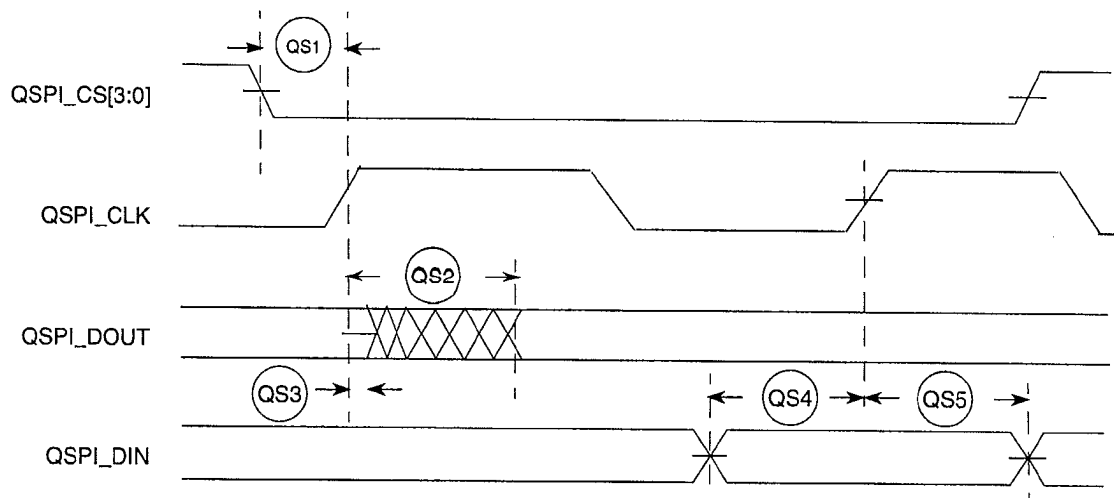


Figure 21. QSPI Timing

## 5.16 JTAG and Boundary Scan Timing

Table 24. JTAG and Boundary Scan Timing

Num	Characteristics <sup>1</sup>	Symbol	Min	Max	Unit
J1	TCLK Frequency of Operation	$f_{JCYC}$	DC	1/4	$f_{sys}/3$
J2	TCLK Cycle Period	$t_{JCYC}$	4	—	$t_{CYC}$
J3	TCLK Clock Pulse Width	$t_{JCW}$	26	—	ns
J4	TCLK Rise and Fall Times	$t_{JCRF}$	0	3	ns
J5	Boundary Scan Input Data Setup Time to TCLK Rise	$t_{BSDST}$	4	—	ns
J6	Boundary Scan Input Data Hold Time after TCLK Rise	$t_{BSDHT}$	26	—	ns
J7	TCLK Low to Boundary Scan Output Data Valid	$t_{BSDV}$	0	33	ns
J8	TCLK Low to Boundary Scan Output High Z	$t_{BSDZ}$	0	33	ns
J9	TMS, TDI Input Data Setup Time to TCLK Rise	$t_{TAPBST}$	4	—	ns
J10	TMS, TDI Input Data Hold Time after TCLK Rise	$t_{TAPBHT}$	10	—	ns
J11	TCLK Low to TDO Data Valid	$t_{TDODV}$	0	26	ns
J12	TCLK Low to TDO High Z	$t_{TDODZ}$	0	8	ns
J13	$\overline{TRST}$ Assert Time	$t_{TRSTAT}$	100	—	ns
J14	$\overline{TRST}$ Setup Time (Negation) to TCLK High	$t_{TRSTST}$	10	—	ns

<sup>1</sup> JTAG\_EN is expected to be a static signal. Hence, specific timing is not associated with it.

## Electrical Characteristics

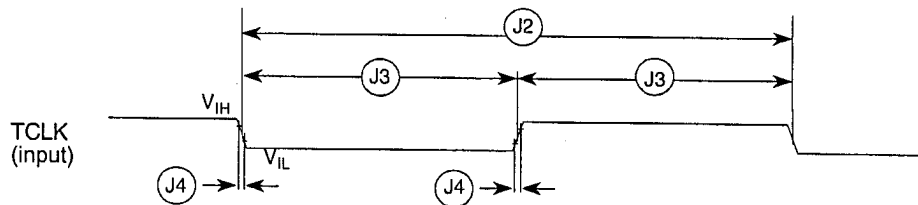


Figure 22. Test Clock Input Timing

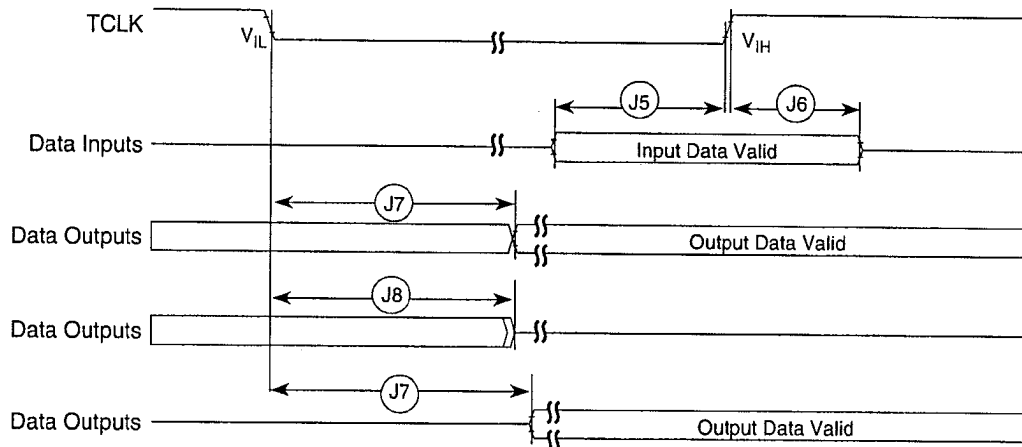


Figure 23. Boundary Scan (JTAG) Timing

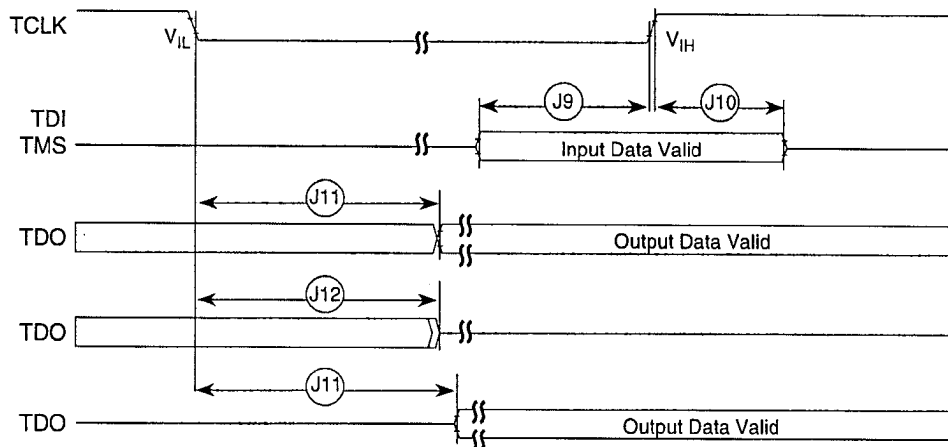


Figure 24. Test Access Port Timing

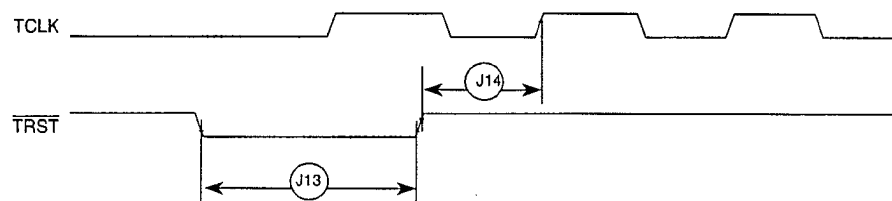


Figure 25. TRST Timing

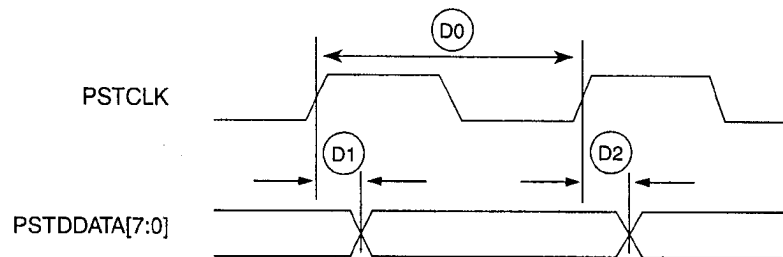
## 5.17 Debug AC Timing Specifications

Table 25 lists specifications for the debug AC timing parameters shown in Figure 26.

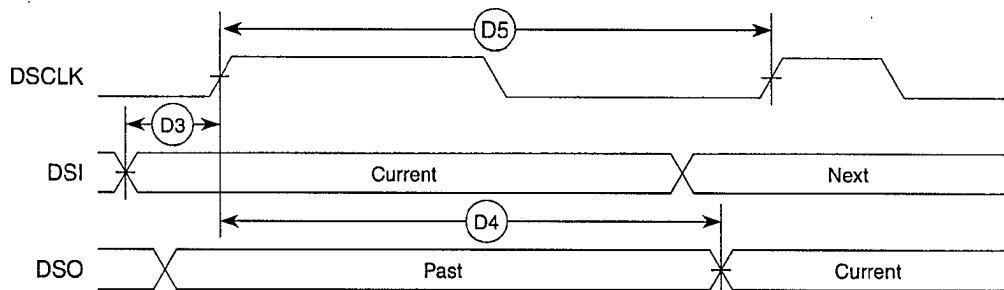
**Table 25. Debug AC Timing Specification**

Num	Characteristic	Min	Max	Units
D0	PSTCLK cycle time	1.5	1.5	$t_{sys}$
D1	PSTCLK rising to PSTDDATA valid	—	3.0	ns
D2	PSTCLK rising to PSTDDATA invalid	1.5	—	ns
D3	DSI-to-DSCLK setup	1	—	PSTCLK
D4 <sup>1</sup>	DSCLK-to-DSO hold	4	—	PSTCLK
D5	DSCLK cycle time	5	—	PSTCLK
D6	BKPT assertion time	1	—	PSTCLK

<sup>1</sup> DSCLK and DSI are synchronized internally. D4 is measured from the synchronized DSCLK input relative to the rising edge of PSTCLK.



**Figure 26. Real-Time Trace AC Timing**



**Figure 27. BDM Serial Port AC Timing**

## 6 Current Consumption

All current consumption data is lab data measured on a single device using an evaluation board. Table 26 shows the typical power consumption in low-power modes. These current measurements are taken after executing a STOP instruction.

## Current Consumption

Table 26. Current Consumption in Low-Power Modes<sup>1,2</sup>

Mode	Voltage	58 MHz (Typ) <sup>3</sup>	64 MHz (Typ) <sup>3</sup>	72 MHz (Typ) <sup>3</sup>	80 MHz (Typ) <sup>3</sup>	80 MHz (Peak) <sup>4</sup>	Units
Stop Mode 3 (Stop 11) <sup>5</sup>	3.3 V	3.9	3.92	4.0	4.0	4.0	mA
	1.5 V	1.04	1.04	1.04	1.04	1.08	
Stop Mode 2 (Stop 10) <sup>4</sup>	3.3 V	4.69	4.72	4.8	4.8	4.8	
	1.5 V	2.69	2.69	2.70	2.70	2.75	
Stop Mode 1 (Stop 01) <sup>4</sup>	3.3 V	4.72	4.73	4.81	4.81	4.81	
	1.5 V	15.28	16.44	17.85	19.91	20.42	
Stop Mode 0 (Stop 00) <sup>4</sup>	3.3 V	21.65	21.68	24.33	26.13	26.16	
	1.5 V	15.47	16.63	18.06	20.12	20.67	
Wait/Doze	3.3 V	22.49	22.52	25.21	27.03	39.8	
	1.5 V	26.79	28.85	30.81	34.47	97.4	
Run	3.3 V	33.61	33.61	42.3	50.5	62.6	
	1.5 V	56.3	60.7	65.4	73.4	132.3	

<sup>1</sup> All values are measured with a 3.30V EV<sub>DD</sub>, 3.30V SDV<sub>DD</sub> and 1.5V IV<sub>DD</sub> power supplies. Tests performed at room temperature with pins configured for high drive strength.

<sup>2</sup> Refer to the Power Management chapter in the *MCF537x Reference Manual* for more information on low-power modes.

<sup>3</sup> All peripheral clocks except UART0, FlexBus, INTC0, reset controller, PLL, and edge port off before entering low power mode. All code executed from flash.

<sup>4</sup> All peripheral clocks on before entering low power mode. All code is executed from flash.

<sup>5</sup> See the description of the low-power control register (LCPR) in the *MCF537x Reference Manual* for more information on stop modes 0–3.

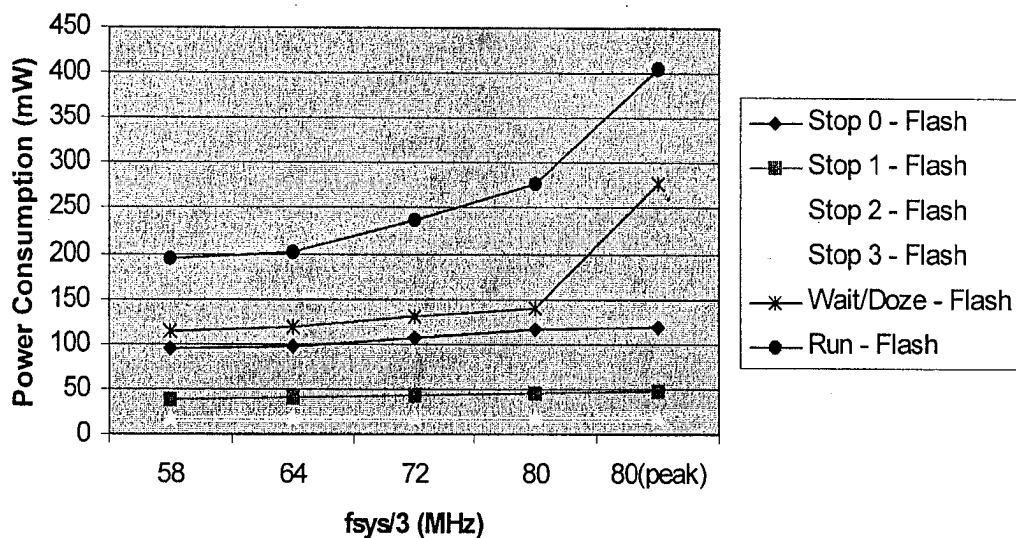


Figure 28. Current Consumption in Low-Power Modes



## Current Consumption

Table 27. Typical Active Current Consumption Specifications<sup>1</sup>

$f_{\text{sys}/3}$ Frequency	Voltage	Typical <sup>2</sup> Active (Flash)	Peak <sup>3</sup>	Unit
1.333 MHz	3.3V	7.73	7.74	mA
	1.5V	2.87	3.56	
2.666 MHz	3.3V	8.57	8.60	
	1.5V	4.37	5.52	
58 MHz	3.3V	40.10	49.3	
	1.5V	65.90	91.70	
64 MHz	3.3V	44.40	54.0	
	1.5V	69.50	97.0	
72 MHz	3.3V	53.6	63.7	
	1.5V	74.6	104.7	
80 MHz	3.3V	63.0	73.7	
	1.5V	79.6	112.9	

<sup>1</sup> All values are measured with a 3.30 V  $EV_{DD}$ , 3.30 V  $SDV_{DD}$  and 1.5 V  $IV_{DD}$  power supplies. Tests performed at room temperature with pins configured for high drive strength.

<sup>2</sup> CPU polling a status register. All peripheral clocks except UART0, FlexBus, INTC0, reset controller, PLL, and edge port disabled.

<sup>3</sup> Peak current measured while running a while(1) loop with all modules active.

Figure 29 shows the estimated maximum power consumption.

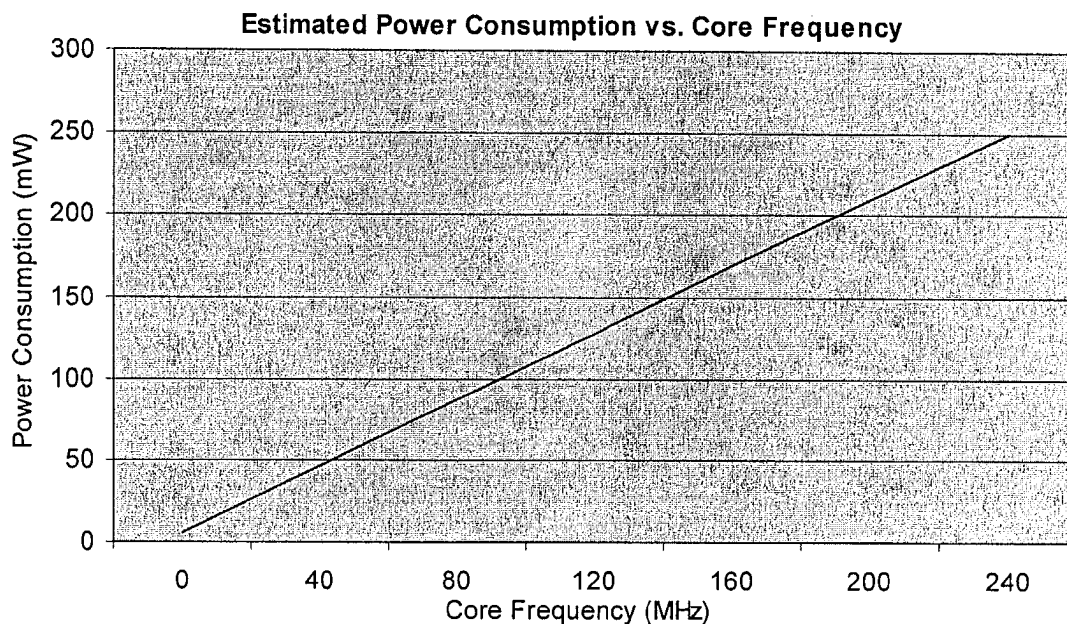


Figure 29. Estimated Maximum Power Consumption

**Package Information**

## **7 Package Information**

This section contains drawings showing the pinout and the packaging and mechanical characteristics of the MCF537x devices.

### **NOTE**

The mechanical drawings are the latest revisions at the time of publication of this document. The most up-to-date mechanical drawings can be found at the product summary page located at <http://www.freescale.com/coldfire>.



## Package Information

## 7.1 Package Dimensions—196 MAPBGA

Figure 30 shows the MCF5373LCVM240, MCF5372LCVM240, and MCF53721CVM240 package dimensions.

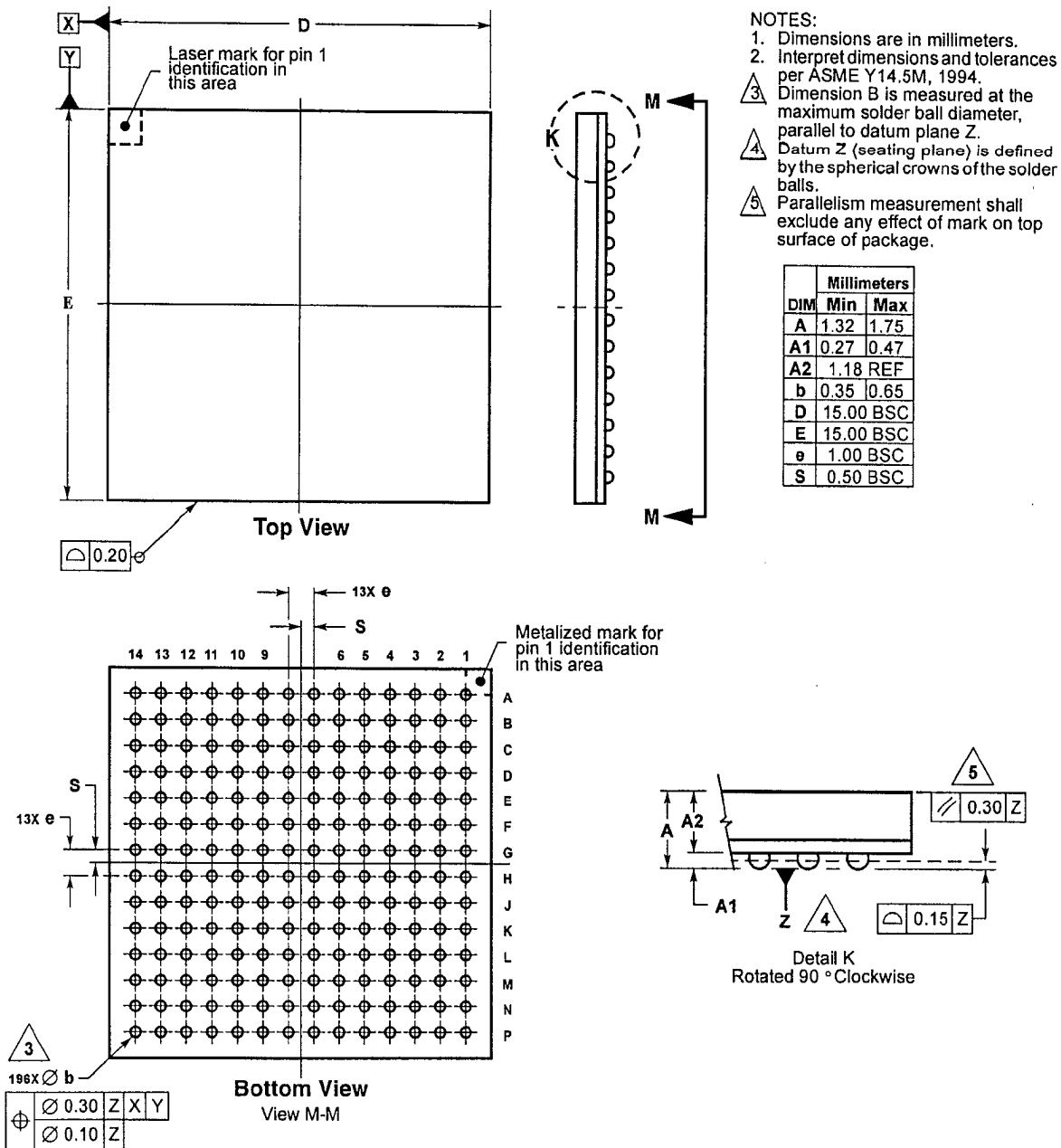
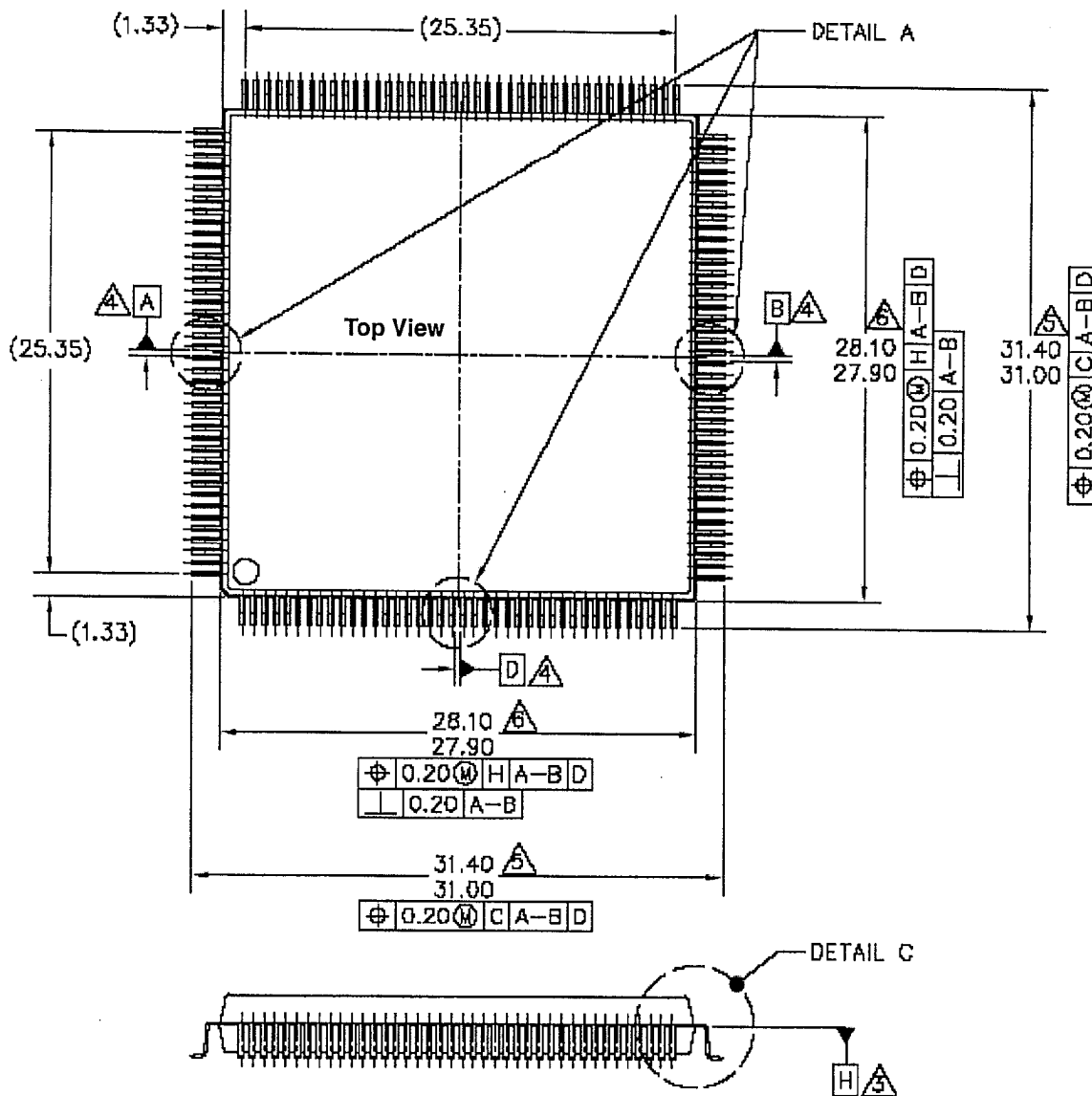


Figure 30. 196 MAPBGA Package Dimensions (Case No. 1128A-01)

## Package Information

## 7.2 Package Dimensions—160 QFP

Figure 31 and Figure 32 show the MCF5372CAB180 and MCF5373CAB180 package dimensions.



**Figure 31. 160QFP Package Dimensions (Sheet 1 of 2)**

## Package Information

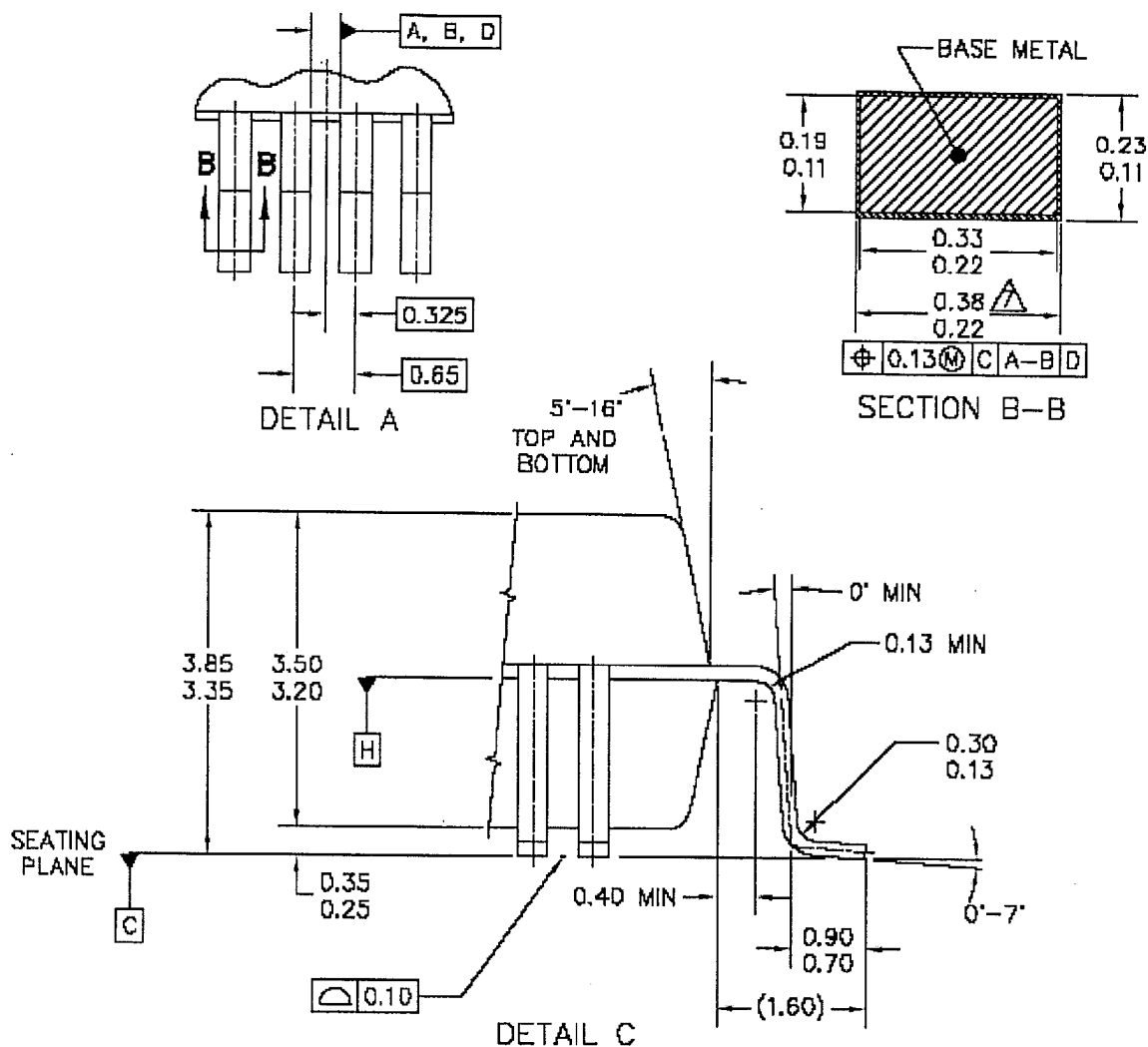


Figure 32. 160QFP Package Dimensions (Sheet 2 of 2)

## Revision History

## 8 Revision History

Table 28. MCF5373DS Document Revision History

Rev. No.	Substantive Changes	Date of Release
0	<ul style="list-style-type: none"> <li>Initial release</li> </ul>	11/2005
0.1	<ul style="list-style-type: none"> <li>Swapped pin locations PLL_VSS (J11-&gt;H11) and DRAMSEL (H11-&gt;J11) in Table 3. Figure 3 is correct.</li> </ul>	12/2005
0.2	<ul style="list-style-type: none"> <li>Added not to Section 7, "Package Information."</li> <li>Added "top view" and "bottom view" where appropriate in mechanical drawings and pinout figures.</li> <li>Figure 5: Corrected "FB_CLK (75MHz)" label to "FB_CLK (80MHz)"</li> </ul>	3/2006
0.3	<ul style="list-style-type: none"> <li>Changed 160QFP pinouts in Figure 4 and Table 3: Removed IRQ3 pin, shifted pins 89–99 up one pin to 90–100. Pin 89 is now VSS.</li> <li>Table 3: Rearranged GPIO signal names for FEC pins.</li> <li>Removed ULPI specifications as the device does not support ULPI.</li> </ul>	4/2006
1	<ul style="list-style-type: none"> <li>Updated thermal characteristic values in Table 7.</li> <li>Updated DC electricals values in Table 7.</li> <li>Updated Section 3.3, "Supply Voltage Sequencing and Separation Cautions" and subsections.</li> <li>Updated and added Oscillator/PLL characteristics in Table 8.</li> <li>Table 9: Swapped min/max for FB1; Removed FB8 &amp; FB9.</li> <li>Updated SDRAM write timing diagram, Figure 8.</li> <li>Table 11: Added values for frequency of operation and DD1.</li> <li>Replaced figure &amp; table Section 5.11, "SSI Timing Specifications," with slave &amp; master mode versions.</li> <li>Removed second sentence from Section 5.13.2, "MII Transmit Signal Timing," regarding no minimum frequency requirement for TXCLK.</li> <li>Removed third and fourth paragraphs from Section 5.13.2, "MII Transmit Signal Timing," as this feature is not supported on this device.</li> <li>Updated figure &amp; table Section 5.17, "Debug AC Timing Specifications."</li> <li>Renamed &amp; moved previous version's Section 5.5 "Power Consumption" to Section 6, "Current Consumption." Added additional real-world data to this section as well.</li> </ul>	7/2007
2	<ul style="list-style-type: none"> <li>Added MCF53721 device information throughout: features list, family configuration table, ordering information table, signals description table, and relevant package diagram titles</li> <li>Remove Footnote 1 from Table 11.</li> <li>Changed document type from Advance Information to Technical Data.</li> </ul>	8/2007

**Revision History**

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Document Number: MCF5373DS

Rev. 2

08/2007



REDACTED

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintif,	)	
	)	C.A. No. 06-788 (JJF)
v.	)	
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	
_____	)	

**DECLARATION OF DONNIE ANDERSON**

Donnie Anderson declares, under 28 U.S.C. § 1746, as follows:

1. I am over the age of twenty-one, I am competent to make this declaration, and I have personal knowledge of the matters stated herein.
2. In 1980 I joined Motorola, which later became Freescale, as a design engineer. I technically resigned from Freescale in late 2007, and was reengaged as an independent contractor. I continue to maintain an office at Freescale.
3. I am familiar with Freescale's product portfolio.
4. I understand that ProMOS has identified approximately 160 products that it alleges may infringe the Chan patents. Freescale products can be ordered in many different configurations (*e.g.*, in different packages or with different material properties). To designate these different configurations, Freescale uses a Product Line ID.
5. The approximately 160 products that ProMOS identified equates to approximately 370 Product Lines.
6. I understand that ProMOS is seeking discovery relating to every product made between January 1, 2000, and the present that includes "microcontrollers, microprocessors,

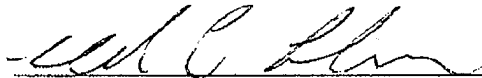


processors, digital signal processors, controller cores, processor cores and all other components or goods [Freescale] manufacture[s] or market[s] for sale or sell in any way that use, incorporate, work with or rely on cache memory; systems, components, products and goods that use, incorporate work with or rely on microcontrollers, microprocessors, processors, digital signal processors, controller cores, processor cores or other components or goods that use, incorporate, work with or rely on cache memory.”

7. Since January 1, 2000, Freescale has sold more than 7,000 different Product Lines.

8. Based on my knowledge of the Freescale product portfolio, virtually all of the more than 7,000 Product Lines sold between January 1, 2000 and today meet ProMOS’s definition in Paragraph 6.

I declare under penalty of perjury that the foregoing is true and correct. Executed in Austin, Texas on March 14, 2008.



Donnie Anderson

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintif,	)	
	)	C.A. No. 06-788 (JJF)
v.	)	
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

---

**DECLARATION OF MOSHE ANSHEL  
REGARDING DISCOVERY EFFORTS**

I, Moshe Anshel, declare as follows:

1. I am an engineer employed by Freescale Semiconductor Israel as DSP Platform S&A Manager. Part of my job responsibility at Freescale includes work on StarCore cores and platforms and Digital Signal Processor (DSP) products. I make this declaration based on my personal knowledge.
2. I was asked to coordinate Freescale's discovery collection efforts relating to the SC1400, SC3400, MSC8144, MSC8144E, MSC8144EC, DSP56301, DSP56311, DSP56321, and DSP56L307. As part of this discovery effort, I was asked to identify the types of documents my design group generates concerning those products and to collect any of those types of documents that could be found at Freescale.
3. At my direction, a search for User Manuals, Design Documents, Design Schematics, and Design Reviews was conducted for the DSP56301, DSP56311, DSP56321, and DSP56L307.
4. At my direction, a search for Reference Manuals, Platform Reference Manuals, Block Guides, Verification Plans, DFT Documents, and Integration Guides was conducted for the SC1400 and Reference Manuals, Subsystem User Manuals, Microarchitecture Documents,

Block Guides, Integration Guides, Verification Plans, Custom Library Schematics, DFT Plans, and Design Reviews was conducted for the SC3400, MSC8144, MSC8144E, and MSC8144EC.

5. Some of the documents that were located as part of the collection effort had to be converted to a different format in order to be viewed. Specifically, custom library schematics were converted to PDF files and certain Framemaker documents were converted to PDF files.

6. I also coordinated the collection of RTL code for the products and cores listed above. That collection effort also required a search of various active and archived project servers in Israel.

7. I estimate that the total amount of time that was spent by me and other people at my direction completing the discovery effort described above for the products and cores listed above was approximately 8 work days.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on this 24 day of March, 2008.



---

Moshe Anshel

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintif,	)	
	)	C.A. No. 06-788 (JJF)
v.	)	
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

**DECLARATION OF YEHUDA RUDIN  
REGARDING DISCOVERY EFFORTS**

I, Yehuda Rudin, declare as follows:

1. I am an engineer employed by Freescale Semiconductor Israel as R&D Manager, Netcomm. Part of my job responsibility at Freescale includes work on PowerPC platforms and Communication Processors products. Part of my job responsibility at Freescale includes managing personnel who worked on the design of the PowerQUICC I family of products. I make this declaration based on my personal knowledge.

2. I was asked to coordinate Freescale's discovery collection efforts relating to the MPC823, MPC823E, MPC850, MPC852T, MPC853T, MPC855T, MPC857DSL, MPC857T, MPC859DSL, MPC859T, MPC860, MPC860P, MPC862, MPC866, MPC870, MPC875, MPC880, and MPC885. As part of this discovery effort, I was asked to identify the types of documents generated concerning those products and to collect any of those types of documents that could be found at Freescale.

3. At my direction, a search for the PTECore Document Methodology, User and/or Reference Manuals, Block Diagrams, Block Definition Documents, Design Reviews, Verification Documents, and Custom Library Schematics was conducted for the products listed above.

4. Some of the documents that were located as part of the collection effort had to be converted to a different format in order to be viewed. Specifically, custom library schematics were converted to PDF files and certain Framemaker documents were converted to PDF files.

5. I also coordinated the collection of RTL code for the products and cores listed above. That collection effort also required a search of various active and archived project servers in Israel which required us to enlist the help of Freescale's IT group.

6. I estimate that the total amount of time that was spent by me and other people at my direction completing the discovery effort described above for the products and cores listed above was approximately 2 work weeks.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on this 16<sup>th</sup> day of March, 2008.

Yehuda Rudin  
Yehuda Rudin

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

PROMOS TECHNOLOGIES, INC.,	)	
	)	
Plaintif,	)	
	)	
v.	)	C.A. No. 06-788 (JJF)
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

---

**DECLARATION OF CHARLES E. NUCKOLLS  
REGARDING DISCOVERY EFFORTS**

I, Charles E. Nuckolls, declare as follows:

1. I am an engineer employed by Freescale Semiconductor, Inc. as the US Region Integrated Circuit Design R&D Manager for the Microcontroller Solutions Group. Part of my job responsibility at Freescale includes managing personnel who work on the design of certain Freescale products that include the ColdFire core. I make this declaration based on my personal knowledge.
2. I was asked to coordinate Freescale's discovery collection efforts relating to 44 ColdFire-based products that I understand had been identified by ProMOS. As part of this discovery effort, I was asked to identify the types of documents my design group generates concerning the 44 products and to collect any of those types of documents that could be found at Freescale.
3. At my direction, a search was conducted for Market Requirements Documents, Product Requirements Document, Product Reference Manuals, Users Manuals, Application Notes, Architectural Definition Documents, SoC Guides, Verification Plans, DFT Plans, and Custom Library Schematics that relate to the 44 products. The search for these documents

required us to contact Freescale facilities in India, Germany, France, and two locations in Austin, Texas.

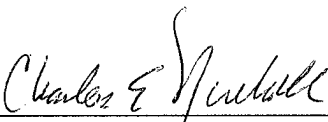
4. Some of the documents that were located as part of the collection effort had to be converted to a different format in order to be viewed. Specifically, custom library schematics were converted to PDF files and certain Framemaker documents were converted to PDF files.

5. I also coordinated the collection of RTL code for the 44 products described above. That collection effort also required a world-wide search of various active and archived project servers in India, China, Germany, France, and two locations in Austin, Texas. RTL for some of the 44 products was located on back-up tapes. In order to extract the RTL code, the backup tapes had to be copied back onto a Freescale server, which required us to enlist the help of Freescale's IT group.

6. I estimate that the total amount of time that was spent by me and other people at my direction completing the discovery effort described above for the 44 products was approximately 4 work weeks.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on this 15<sup>th</sup> day of March, 2008.

  
\_\_\_\_\_  
Charles E. Nuckolls

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

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	)	
Plaintif,	)	
	)	C.A. No. 06-788 (JJF)
v.	)	
	)	
FREESCALE SEMICONDUCTOR, INC.,	)	
	)	
Defendant.	)	

DECLARATION OF JOSEPH C. CIRCELLO  
REGARDING DISCOVERY EFFORTS

I, Joseph C. Circello, declare as follows:

1. I am an engineer employed by Freescale Semiconductor, Inc. as a Distinguished Member of the Technical Staff in Tempe, Arizona. Part of my job responsibilities at Freescale include work on the design of certain Freescale products, including the MC68060 and ColdFire cores, and directing personnel who work on those products. I make this declaration based on my personal knowledge.

2. I was asked to coordinate Freescale's discovery collection efforts relating to the MC68060 and five ColdFire cores that I understand had been identified by ProMOS. As part of this discovery effort, I was asked to identify the types of documents my design group generated concerning the MC68060 or five ColdFire cores and to collect any of those types of documents that could be found at Freescale.

3. At my direction, a search was conducted for Whitepapers, Programmers Reference Manuals, and Core Reference Manuals for the ColdFire V2, ColdFire V3, ColdFire V4, ColdFire V4e, and ColdFire V5, and for the Edge Whitepaper, Programmers Reference Manuals, Users Manuals, and Custom Library Schematics for the MC68060.



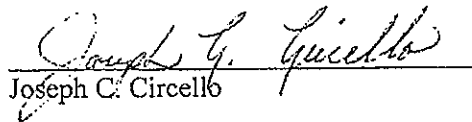
4. Some of the documents that were located as part of the collection effort had to be converted to a different format in order to be viewed. Specifically, certain Framemaker documents were converted to PDF files.

5. I also coordinated the collection of RTL code for the ColdFire cores and MC68060 described above.

6. I estimate that the total amount of time that was spent by me and other people at my direction completing the discovery effort described above for the six products or cores was approximately 89 hours.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on this 16 day of March, 2008.

  
Joseph C. Circello

**CERTIFICATE OF SERVICE**

I hereby certify that on March 28, 2008, I caused the foregoing to be electronically filed with the Clerk of the Court using CM/ECF which will send electronic notification of such filing to the following:

John G. Day, Esquire  
Steven J. Balick, Esquire  
ASHBY & GEDDES

Additionally, I hereby certify that true and correct copies of the foregoing were caused to be served on March 28, 2008 on the following individuals in the manner indicated:

**BY E-MAIL**

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Steven J. Balick, Esquire  
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*/s/ James W. Parrett, Jr.*

---

James W. Parrett, Jr. (#4292)